Library of Congress

INFORMATION BULLETIN

SPECIAL ISSUE

Vol. 54, No. 12 Published Biweekly June 12, 1995

The Library *of* Congress

Founded in 1800

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Exhibits and Events

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Read about Library services, publications, and conferences.

Digital Library Collections

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Search congressional information through THOMAS, and access federal and state government information.

Indexes to Other World Wide Web Services

Find selected information on the Internet by subject or genre.

Library of Congress

Comments: lcwwk@loc.gov (05/18/95)

The National Digital Library Program

Library of Congress

INFORMATION BULLETIN

Vol. 54, No. 12
June 12, 1995

JAMES H. BILLINGTON
Librarian of Congress

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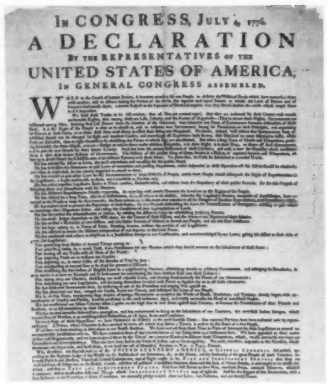
IN CONGRESS, JULY 4, 1776.
A DECLARATION
BY THE REPRESENTATIVES OF THE
UNITED STATES OF AMERICA,
IN GENERAL CONGRESS ASSEMBLED.

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A New Federation:

LC and 15 Others Sign National Digital Library Federation Agreement

Librarian of Congress James H. Billington, the Commission on Preservation and Access and officials from 14 other research libraries and archives on May 1 signed the National Digital Library Federation Agreement (see LC *Information Bulletin*, May 1).

Recognizing "the important leadership role that the Library of Congress has played in raising as a national issue the need for such a national digital library," those institutions taking part agreed to "bring together–from across the nation and beyond–digitized materials that will be made accessible to students, scholars and citizens everywhere."

"The Library of Congress is proud to be a member of the National Digital Library Federation and to continue its leadership role in building a collection of digitized materials that will bring unique materials reflecting America's heritage and culture to all," said Dr. Billington.

The Commission on Preservation and Access, whose president is Deanna B. Marcum, is a private, nonprofit organization. Its mission is to develop and support collaboration among libraries and allied institutions to ensure access to and preservation of resources in all formats.

At the signing, held at Harvard University, participants agreed to establish a collaborative management structure, develop a coordinated approach to fund-raising and formulate selection guidelines that will "ensure conformance to the general theme of U.S. heritage and culture."

"The Library of Congress and the scholarly community will benefit from participation in the National Digital Library Federation, particularly by working with the federation members to increase access to the nation's research collections in libraries and archives both large and small," said Winston Tabb, associate librarian for Collections Services.

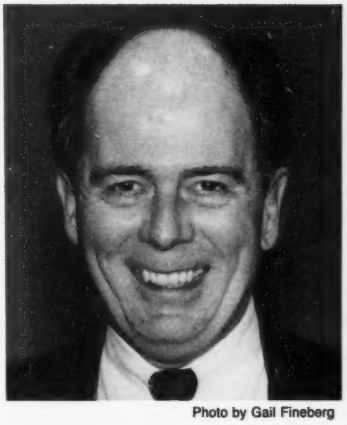


Photo by Gail Fineberg

The National Digital Library Federation will "increase access to the nation's research collections in libraries and archives both large and small."

—Winston Tabb
Associate Librarian for
Collections Services

"What makes this federation especially useful for the Library," Mr. Tabb added, "is that not only were the other federation members already working in the digital area, but they had already chosen for their theme 'The Making of America,' which of course is similar to the Library's American Memory Project and our goal of focusing on digitizing our Americana collections."

Although the current federation members are all large research institutions, Dr. Billington and Mr. Tabb both urged that smaller libraries with unique collections also be allowed to participate.

"Many smaller libraries and historical societies have a very narrow, but important, focus," said Mr. Tabb. "But often they do not have the financial resources to embark on a digitization project. We must make certain these smaller libraries are not left out of the National Digital Library effort."

Federation members will also profit from "being able to draw on the expertise of other libraries. Through a division of labor, we will not have to reinvent the wheel," said Mr. Tabb.

Federation members will also be looking at ways to reduce the high costs of digitization (currently $2 to $6 per page of text).

But, according to Mr. Tabb, probably the most important area for the federation to concentrate on will be content. "No one library has everything on a given subject," he said. "For example, we might decide that collections relating to President Lincoln" should be digitized. "Although the Library of Congress has an extensive collection of Lincolniana, so do other repositories," he continued. "And scholars and schoolchildren can benefit from having the whole corpus of Lincolniana, regardless of where the original document is housed."

In addition to the Library of Congress, and the Commission on Preservation and Access, those institutions signing the agreement are: Columbia University, Cornell University, Emory University, Harvard University, National Archives and Records Administration, New York Public Library, Pennsylvania State University, Princeton University, Stanford University, University of California at Berkeley, University of Michigan, University of Southern California, University of Tennessee and Yale University.

—*Guy Lamolinara*

Photo by Jim Higgins

Sandra Lawson gives a demonstration in the Digital Library Visitors' Center, where guests can view the many materials the Library makes available electronically . . .

Treasure Trove:

LC's National Digital Library Program Brings Its Riches to All

by Guy Lamolinara

For most of its history, the Library has been known as the largest repository of knowledge ever assembled by mankind, its unique collections accessible to Congress as well as the public.

But Dr. Billington, since becoming Librarian in 1987, has always wanted to open the wealth of the collections to extend this access to rare nonbook materials to all, to use new technology to bring these materials to users across the country and around the world.

"The collections of the Library of Congress belong to the American people," said the Librarian. "We have a responsibility to make the enormous riches of this institution as accessible as possible to as many people as possible."

The Internet has enabled the Library to jump the technological hurdle.

A far larger obstacle is the cost of digitization, not to mention deciding where to begin—which of the more than 110 million items in the Library's collections should be digitized first.

Already, the Library has begun to tackle these problems. First, it has embarked on a plan to raise a total of $60 million by the year 2000 ($15 million has been requested from Congress; $45 million in private donations raised by the Library) for the National Digital Library Program. In conjunction with other major research institutions, the Library plans to digitize 5 million items by 2000.

. . . Such as this Mathew Brady Civil War photo, showing Gen. Ulysses S. Grant (center) flanked by Gen. Rawlins and Lt. Col. Bowers in City Point, Va., April 12, 1865.

And second, the Library has decided to focus its initial efforts on digitizing the treasures in its collections relating to American history—unique items such as the Gettysburg Address, the rough draft of the Declaration of Independence; selected papers of Walt Whitman; photographs from the Mathew Brady Civil War Collection. The Library has already made its exhibitions available on-line: "Rome Reborn: The Vatican Library and Renaissance Culture"; "Selections from the African-American Mosaic"; "Temple of Liberty: Building the Capitol for a New Nation"; and five others.

Many other institutions have jumped on the so-called Information Superhighway. But where will the highway lead, say, in the next 20 years?

"American society, perhaps more than any other, has taken an aggressively optimistic view of impending technological change," said Dr. Billington. "So it was with television almost 50 years ago. People said it would vastly enhance education, bring culture and arts to everyone and create a better more engaged citizenry. The reality, as measured by voter registration, social statistics and student test scores, has been less impressive."

The Information Superhighway, however, is not the spectator-oriented medium that television is. "This new, interactive, multimedia world does, after all, engage the active mind in intellectual calisthenics and in creative interplay with useful information," said Dr. Billington.

There is always a danger that the Information Superhighway could go the way of television, offering little more than video games, home shopping, movies on demand and so on. But the fact that major repositories of knowledge are gearing up to provide high-quality cargo on the highway bodes well for its future.

"We are present at the creation of enormous possibilities," Dr. Billington continued. "Along with others, libraries can and should be a powerful force for a national renaissance."

According to Suzanne Thorin, LC chief of staff and the coordinator for

digital activities at the Library, "I believe that the National Digital Library is the most visible program the Library has had in its history. It is a way for us—and for Congress, which has nurtured the institution for almost 200 years—to give back some of our unique collections to the American people."

Already, the Library is a major presence on the Internet. More than 27 million records, including the online catalog (LOCIS) are available, as are more than 300,000 images. THOMAS, an initiative of the leadership of the 104th Congress, provides information about the lawmaking body free of charge to users everywhere. Now, someone as far away from Capitol Hill as Honolulu or Anchorage can see the *Congressional Record* the day after it is produced, rather than having to wait days for printed copies to be delivered by mail.

"THOMAS puts people in touch with their representatives and senators. They can learn what Congress is doing and, through electronic mail, can let them know how they feel about it—within minutes," said Ms. Thorin.

Although the Library has been working with digital technologies since the 1960s, the American Memory Project, begun in 1990, was the first time the Library tested the feasibility of providing digitized materials in the field. This five-year pilot, which concluded last year and has been folded into the National Digital Library Program, tested digital collections in 44 schools and libraries across the country.

Photo by Erica Wissolik

Dr. Billington and Chief of Staff Suzanne Thorin during a staff forum in the Visitors' Center, in which they explained the importance of making available electronically . . .

"With American Memory, the Library gained invaluable experience in a laboratory-type setting, using different collections," said Ms. Thorin. "We were able to experiment with search tools, how to organize the material and, most important, we learned that these materials are useful."

"Our tests with American Memory have shown that it works well with children, even in the fourth and fifth grades," said Dr. Billington. "It activates their intellects by stimulating the kinds of open questions that the hitherto inaccessible primary source materials of our history inevitably raise, exposing them simultaneously to new technology and old values."

Others in the library community have acknowledged LC's role in the field of digitized materials. The document signed by members of the National Digital Library Federation (see story on page 251) recognizes "the important leadership role that the Library of Congress has played in raising as a national issue the need for such a national digital library."

Ms. Thorin said that she hears "from people in the library world that this [National Digital Library] is the best thing the Library has ever done. And we are also interested in working with other libraries on the project. That is one reason why we wanted to be a part of the National Digital Library Federation and why it's called a federation in the first place. We didn't want to sit on top like a king but to work with all the members as equal partners."

Even before joining the federation, the Library had held meetings with leaders in information science, business, libraries, education and other fields to gain insights into building LC's contribution to the digital library.

The September 1994 meeting on "Technological Strategies for a National Digital Library" "told us the project was worthwhile," said Ms. Thorin.

The meeting with corporate leaders, held last January, helped the Library develop a funding strategy. Recently, officials from the Copyright Office have held meetings with experts in the intellectual property field who are helping the Library with its tests of the electronic registration of materials.

The immediate goals of the Library's digital program are:

☐ To digitize approximately 200 Library of Congress collections in many formats,

☐ To build a national digitizing program, incorporating unique American history collections from other institutions, and

☐ To provide access to the widest possible audience.

Because the costs of digitization are so high—$2 to $6 per page of text—the Library has sought the help of private industry. Private industry will also have access to the digital materials and can repackage them for different markets (see story on page 258). The Library plans only to provide materials in unenhanced form and will not grant exclusive rights to anyone.

In addition to working with the private sector in increasing access to these materials, the Library also intends to play a leadership role in developing new approaches to organizing, managing and preserving digital materials and creating procedures for the protection of intellectual property. For example:

☐ The Copyright Office Electronic Registration, Recordation and Deposit System, or CORDS, will serve as a testbed to evaluate electronic copyright deposit, registration and recordation concepts and issues.

"There is no question that protection of intellectual property is one of the keys to the success of the Information Superhighway," said Dr. Billington. Currently, the Library is digitizing only materials in the public domain or for which it has obtained the necessary permissions.

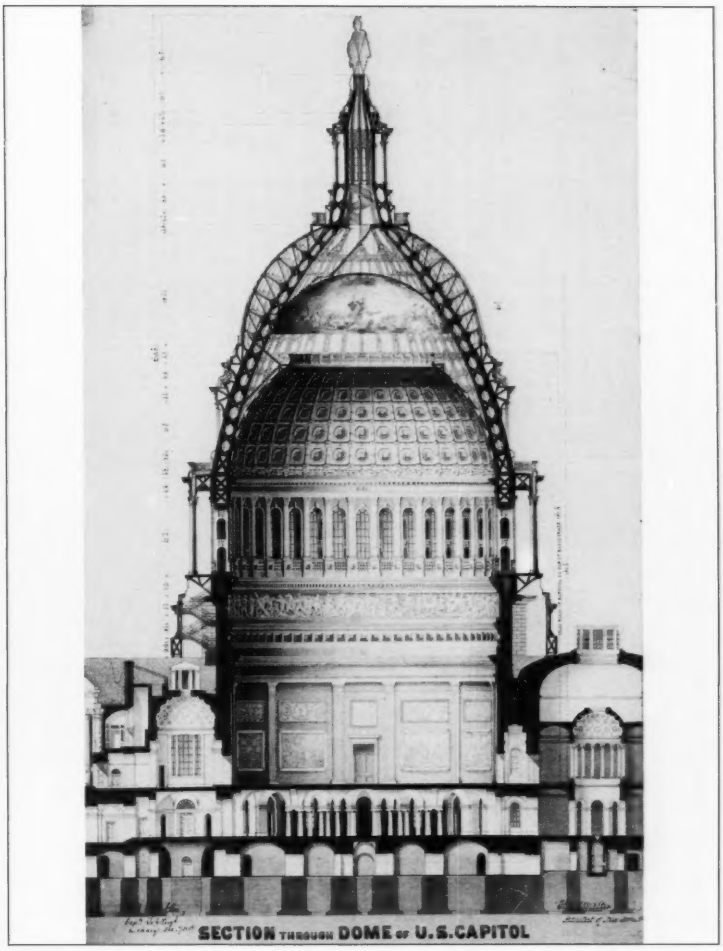
☐ Along with six other institutions, the Library is participating in the site licensing project sponsored by the Getty Art Museum. All seven institutions will send collections to seven university campuses for use by students and professors. The reason: to test the legal and technical mechanisms needed to allow the full educational use of collections and to develop model licensing agreements.

☐ The Library, working with the Association of American Publishers and others, will select copyrighted multimedia American history materials and make them available electronically, under a collective licensing agreement, in schools and libraries.

☐ The Electronic Cataloging in Publication project is testing online transmission of galleys from HarperCollins and seven university presses over the Internet to facilitate the preparation of cataloging information and to establish the foundation for an electronic library of machine-readable books.

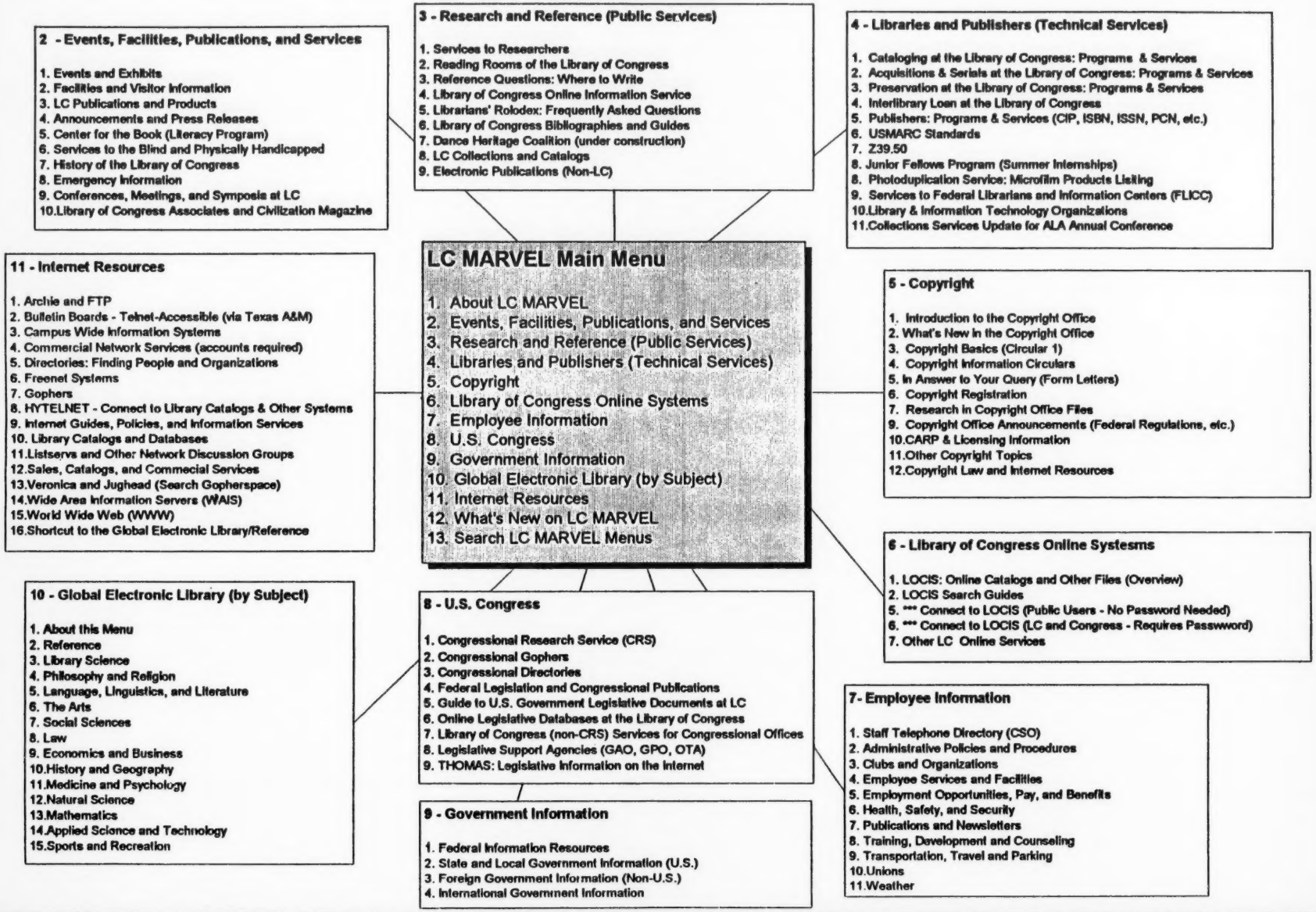
☐ The Law Library has begun a Global Legal Information Network (see story on page 259) to bring laws, reports and the text of official gazettes to countries around the world.

The Library has also become involved in other international efforts. In May Suzanne Thorin, as the U.S. representative, attended a meeting in Paris of the G-7 electronic libraries



. . . Images from the Library's exhibitions, such as this one from "Temple of Liberty."

LC Marvel Menus - Overview


LC MARVEL Main Menu
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6. Services to the Blind and Physically Handicapped
7. History of the Library of Congress
8. Emergency Information
9. Conferences, Meetings, and Symposia at LC
10.Library of Congress Associates and Civilization Magazine
3 - Research and Reference (Public Services)
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2. Reading Rooms of the Library of Congress
3. Reference Questions: Where to Write
4. Library of Congress Online Information Service
5. Librarians' Rolodex: Frequently Asked Questions
6. Library of Congress Bibliographies and Guides
7. Dance Heritage Coalition (under construction)
8. LC Collections and Catalogs
9. Electronic Publications (Non-LC)
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2. Acquisitions & Serials at the Library of Congress: Programs & Services
3. Preservation at the Library of Congress: Programs & Services
4. Interlibrary Loan at the Library of Congress
5. Publishers: Programs & Services (CIP, ISBN, ISSN, PCN, etc.)
6. USMARC Standards
7. Z39.50
8. Junior Fellows Program (Summer Internships)
8. Photoduplication Service: Microfilm Products Listing
9. Services to Federal Librarians and Information Centers (FLICC)
10.Library & Information Technology Organizations
11.Collections Services Update for ALA Annual Conference
11 - Internet Resources
1. Archie and FTP
2. Bulletin Boards - Telnet-Accessible (via Texas A&M)
3. Campus Wide Information Systems
4. Commercial Network Services (accounts required)
5. Directories: Finding People and Organizations
6. Freenet Systems
7. Gophers
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9. Internet Guides, Policies, and Information Services
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6. Online Legislative Databases at the Library of Congress
7. Library of Congress (non-CRS) Services for Congressional Offices
8. Legislative Support Agencies (GAO, GPO, OTA)
9. THOMAS: Legislative Information on the Internet
7- Employee Information
1. Staff Telephone Directory (CSO)
2. Administrative Policies and Procedures
3. Clubs and Organizations
4. Employee Services and Facilities
5. Employment Opportunities, Pay, and Benefits
6. Health, Safety, and Security
7. Publications and Newsletters
8. Training, Development and Counseling
9. Transportation, Travel and Parking
10.Unions
11.Weather
9 - Government Information
1. Federal Information Resources
2. State and Local Government Information (U.S.)
3. Foreign Government Information (Non-U.S.)
4. International Government Information

project to determine which strategies are needed to build a universal electronic library. "We agreed that the Internet would be the vehicle for the transmission of content," Ms. Thorin said. "And we agreed that we need to develop a register for digitized materials." A "universal library Web site" will be established to report on the group's activities.

The ultimate goal is to move the Library into the 21st century, making it an important contributor to learning nationwide. "We can either become a museum of knowledge confined to our three buildings on Capitol Hill, or we can make the institution accessible to all Americans. We have chosen the latter option," said Ms. Thorin.

Added the Librarian: "As we see it, the Library's collections are part of the nation's 'strategic information reserve' that will provide an important part of the intellectual cargo on the Information Superhighway. As the electronic information networks become truly worldwide, librarians everywhere will become sophisticated 'knowledge navigators.'

"Libraries in America and elsewhere in the world will be more important than ever."

An overview (opposite) of the menus on LC MARVEL, a campus-wide information system that provides electronic access to the vast amounts of information about the Library in addition to links to other Internet sites. MARVEL offers, for example, access to the Library's *Calendar of Events*, information about Congress, an introduction to the Copyright Office, the LC staff telephone directory and the Global Electronic Library (GEL). The GEL categorizes and provides links to other resources in areas such as the arts, social sciences, sports, law and mathematics. LC MARVEL is also linked to the Library's World Wide Web server.

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        L O C I S :  LIBRARY OF CONGRESS INFORMATION SYSTEM

         To make a choice: type a number, then press ENTER

 1   Library of Congress Catalog            4   Braille and Audio

 2   Federal Legislation                    5   Organizations

 3   Copyright Information                  6   Foreign Law

*     *     *     *     *     *     *     *     *     *     *     *

 7   Searching Hours and Basic Search Commands
 8   Documentation and Classes
 9   Library of Congress General Information
10   Library of Congress Fast Facts
11   * * Announcements * *


12   Comments and Logoff
     Choice:
                                                              LOCISMENU
                                                  rs7.loc.gov  17:13:32
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The Library of Congress Information System (LOCIS) menu, which provides access to more than 27 million records.

Walt Whitman posed for this photograph in Philadelphia sometime between 1873 and 1883. Whitman, who wanted to appear in touch with nature, said the butterfly was real, but it wasn't. The cardboard butterfly used in the photo was recently returned to the Library's collections. The story of its return, this image and notebooks from the Whitman collection are available from the Library's World Wide Web server. *From Manuscript Division collections*

Getting the Digital Library On-Line:
Private Funds to Be Used to Hire More Staff

Until now, much of the work on the Library's digital projects has been accomplished by a small group of staff members performing many of the necessary tasks on their own time.

But for the Library to achieve its goal of digitizing 5 million items by the year 2000 in collaboration with other major research institutions, additional staff will have to be hired.

Approximately 30–40 persons will be hired by October to do such tasks as convert items to digital form, develop finding aids for those items, archive the digital files, work with vendors who are interested in marketing specialized products based on LC's collections and develop a permissions program that will allow the Library to digitize materials that have restrictions, among other duties. These positions will be funded from funds raised from the private sector.

"We've been putting a detailed operating plan together during the past six months that will help us reach our goals," said Laura Campbell, director of the National Digital Library Program.

The new staff will also be building an archives. "What is unapparent to the Internet user," said Ms. Campbell, "is that there are many steps in putting a digital collection into an archives, particularly when we're talking about the volume of material that the Library of Congress will make available.

"We will not only develop new methods for describing materials that are not under bibliographic control using electronic finding aids," Ms. Campbell continued, "we'll also develop a procedure for describing the digital files or objects so that they can be easily retrieved."

The Library will also design software that will allow staff to review and edit digital files more easily.

"The files are indexed and then made available on Internet," Ms. Campbell said. "So there are many steps that happen before a file gets out on Internet. You can't just put it out there."

The permissions program will obtain rights to make material available that may have had restrictions placed on it by the donors, for example. "We will be trying to ascertain whether there are, in fact, any restrictions on the material [the Library wants to digitize], and, if so, how to get clearances," said Ms. Campbell.

Arrangements with the private sector have already resulted in commercial products, such as the Library's Mathew Brady Civil War photographs, which are available on CD-ROM. Another company will soon release a CD-ROM based on LC's California history materials—42,000 pages of text and 3,000 images.

"We are currently working with two publishers, trying to identify materials that they might like to incorporate into their Internet service deliveries," said Ms. Campbell, who emphasizes that no company will gain exclusive rights to any Library materials.

The Library also benefits from working with the private sector.

"Our materials have yet another vehicle, besides the Internet, for widespread distribution," said Ms. Campbell. "These companies provide the materials to a specific audience in an easy-to-use package, whereas the Library provides materials in unembellished form. Because we are willing to work with the private sector, we know we'll serve many more users."

Ms. Campbell's staff will also be working with the Library's Preservation Office to standardize so-called "best practices" for converting

(Cont. on p. 279)

"We will not only develop new methods for describing materials that are not under bibliographic control. . . . We'll also develop a procedure for describing digital files so they can be easily retrieved."
—Laura Campbell
(shown during the Oct. 13, 1994, opening of the Digital Library Visitors' Center)

Legal Networking:

Global Legal Information Network Links Databases Worldwide

The Law Library's Global Legal Information Network (GLIN) is more than just another digital initiative the Library is offering on the network of networks known as the Internet.

It is itself a network that offers users access to laws of foreign countries and the United States from a computer housed at the Library.

By the end of the year, representatives from a total of 15 countries from the Americas, Africa, Europe and Asia will have completed GLIN training, contributing their legal databases to the Library's server. Fifteen other countries are in various stages of proficiency in the program.

Why the need for such a system?

"If you look at legal systems around the world, you are going to realize that it's amazing that there are tremendous similarities in the way nations' laws try to protect and punish their citizens," said Law Librarian Rubens Medina. "So the U.S. Congress is looking to other countries for inspiration in writing laws, just as the lawmakers of other nations look to the United States as an example of a system that has worked for more than 200 years.

"There are issues that are global in character, like public health," Dr. Medina continued. "Criminality is everywhere. Unemployment is everywhere. These are issues that the entire planet is concerned about."

GLIN enables the Law Library to serve Congress as it always has but much more quickly and efficiently. Previously, it could take six months or more for the Law Library to receive paper copies of the latest laws from a particular country. Now, with GLIN, when a member of Congress needs to know what that country has done in the area of, say, clean water acts, the Law Library can confidently respond with the latest legal information.

Nick Kozura (left), Global Legal Information Network project manager, discusses the latest upgrade to GLIN with Law Librarian Rubens Medina. *Photo by Yusef El-Amin*

Another reason for Congress's need to know about foreign laws arises in the Senate, which is charged with the ratification of treaties. "We often get calls from Senate offices that want to know the legal environment in which a treaty will be operating," said Dr. Medina.

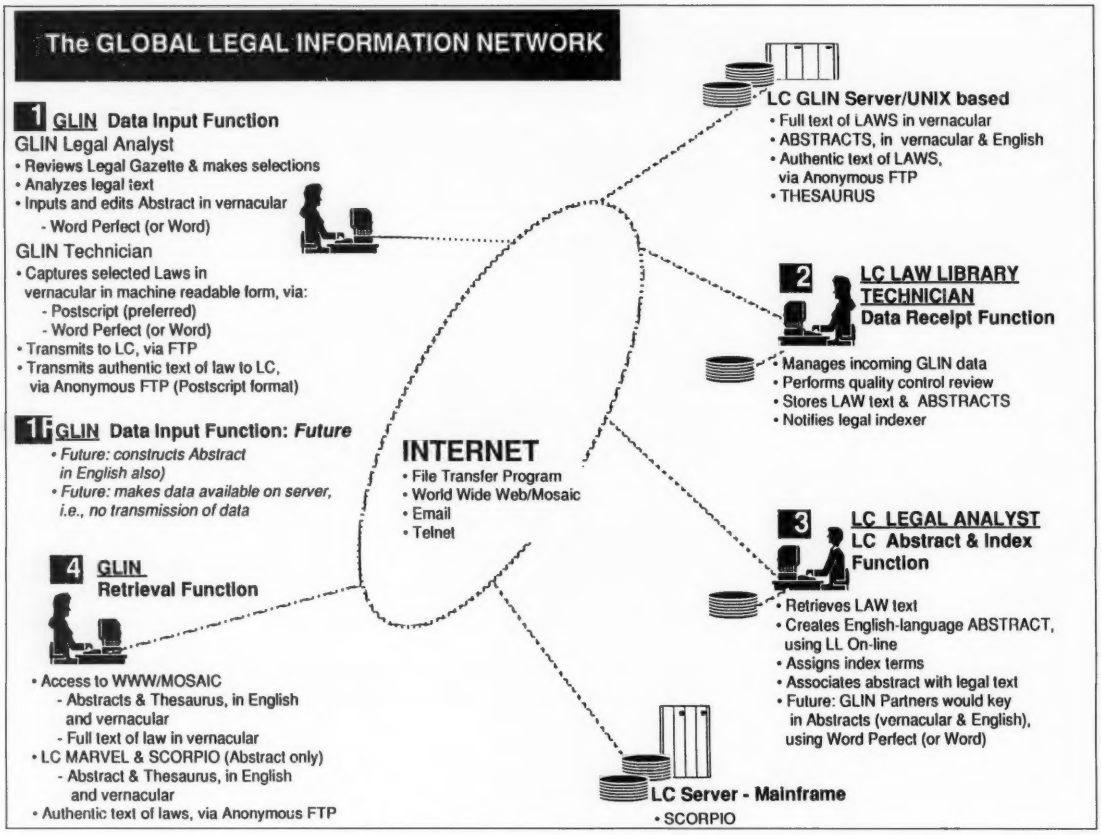
The Law Library planted the seeds of GLIN in 1976 as the need for such a system became increasingly clear. Then, with the advent of the Internet in recent years, the possibility of connecting nations all over the world became a reality.

The Hispanic Law Division, which Dr. Medina headed before becoming law librarian, was the first division to develop an index digest of laws of Hispanic countries. Soon after the digest was developed, "legislators from other nations saw it and wanted to know how they could have access to it," said Dr. Medina.

"When the technology [Internet] became widely available and text as well as an index could be made available, it became more obvious that it was convenient to do two things: (1) to expand the system beyond Latin America, because obviously Congress was interested in more than just Latin America; and (2) make the system a cooperative effort."

The Law Library offers GLIN participants a model for implementing the various aspects of this cooperative legal database. Representatives from the participating nations come to the Library for training.

According to Nick Kozura, GLIN project manager, nine nations have completed training and are "ready to do the work themselves." They are: Argentina, Mexico, Brazil, Poland, Ukraine, Hungary, Lithuania, Kuwait and Mauritania. The six that


The GLOBAL LEGAL INFORMATION NETWORK
1 GLIN Data Input Function
GLIN Legal Analyst
• Reviews Legal Gazette & makes selections
• Analyzes legal text
• Inputs and edits Abstract in vernacular
- Word Perfect (or Word)
GLIN Technician
• Captures selected Laws in vernacular in machine readable form, via:
- Postscript (preferred)
- Word Perfect (or Word)
• Transmits to LC, via FTP
• Transmits authentic text of law to LC, via Anonymous FTP (Postscript format)
1f GLIN Data Input Function: Future
• Future: constructs Abstract in English also)
• Future: makes data available on server, i.e., no transmission of data
4 GLIN Retrieval Function
• Access to WWW/MOSAIC
- Abstracts & Thesaurus, in English and vernacular
- Full text of law in vernacular
• LC MARVEL & SCORPIO (Abstract only)
- Abstract & Thesaurus, in English and vernacular
• Authentic text of laws, via Anonymous FTP
INTERNET
• File Transfer Program
• World Wide Web/Mosaic
• Email
• Telnet
LC GLIN Server/UNIX based
• Full text of LAWS in vernacular
• ABSTRACTS, in vernacular & English
• Authentic text of LAWS, via Anonymous FTP
• THESAURUS
2 LC LAW LIBRARY TECHNICIAN Data Receipt Function
• Manages incoming GLIN data
• Performs quality control review
• Stores LAW text & ABSTRACTS
• Notifies legal indexer
3 LC LEGAL ANALYST LC Abstract & Index Function
• Retrieves LAW text
• Creates English-language ABSTRACT, using LL On-line
• Assigns index terms
• Associates abstract with legal text
• Future: GLIN Partners would key in Abstracts (vernacular & English), using Word Perfect (or Word)
LC Server - Mainframe
• SCORPIO

will be ready by year's end are: Paraguay, Uruguay, the Czech Republic, South Korea, Egypt and Nicaragua.

Getting partners for GLIN has been an easy task. "We did not solicit any countries to become members," said Dr. Medina. "We responded to countries who saw it and said, 'We want to be part of this.'"

The Law Library is ready to include Western European countries such as Great Britain, France and Germany.

GLIN users will soon be able to search laws in the native languages as well as an abstract of those laws in both the native and English.

Because GLIN is still under construction, only contributing members have access to it.

But all members have agreed that they may provide access to all other partners. "During the September GLIN meeting, we will probably discuss whether we want to seek distributors beyond the member nations," said Mr. Kozura. The general public now has access to the index abstract, which verifies the existence of a particular statute. It can be accessed via LC MARVEL, by searching the SCORPIO files (see access information beginning on page 270).

GLIN nations are able to communicate among one another because "we're presenting," as Mr. Kozura puts it, "a model based upon national and international standards for hardware, and software and for tools on Internet. However, each country we deal with is a little different in some way, and so we're working with each country so that their changes are minimal and so are ours. We work with them and make some small modifications to their model to keep things consistent.

"We are still a prototype," Mr. Kozura continued. "Probably within the next year we'll say, 'This is the final version,' with the understanding that as technology changes we will change too."

Several countries that are fully trained are interested in becoming "regional servers."

"It's our preference to have these regional servers because the Library

certainly can't store all the data for all the countries of all the world, and it's not our intention to do that," said Dr. Medina.

These regional servers will solicit and train other GLIN members. "There's no reason why people from Saudi Arabia, for example, should travel here if Kuwait's prepared to train," said Mr. Kozura.

"The final objective," said Dr. Medina, is to have a system in place that is so well developed that the Law Library becomes more of a facilitator in GLIN on an equal basis with other nations of the world that provide training and other assistance to member nations.

"The Law Library is not claiming ownership" of GLIN, said Mr. Kozura. "On the contrary we are proclaiming that this is a cooperative effort."

Concluded Dr. Medina: "It will be a true global partnership."

–Guy Lamolinara

Information Bulletin Is On-line

The *Library of Congress Information Bulletin* is available via the Internet on MARVEL, the Library's campus-wide information system.

Issues are available beginning in 1992. However, there is only a partial listing for that year. For 1993, 23 issues are available in separate files listed by date, volume and issue number. Beginning in 1994, each issue has a subdirectory of separate articles, a practice that continues through the present.

A searchable index on the initial *Bulletin* menu allows readers to search all issues and articles for topics of interest to them.

The best way to get to the electronic version of the *Information Bulletin* is through a local gopher client or via another gopher server pointing to **marvel.loc.gov, port 70.** Although only 15 ports are available, direct telnet to **marvel.loc.gov** also is available. Login as **marvel.** From the main menu, choose No. 2, "Events, Facilities, Programs and Services"; then No. 3, "LC Publications and Products"; and then No. 7, "Library of Congress Information Bulletin (1082-6580)."

Because the *Information Bulletin* is part of a pilot project investigating how to collect and post electronic journals on-line, the National Serials Data Program at the Library recently issued a separate International Standard Serial Number (ISSN) for the electronic version. It is 1082-6580. The ISSN for the paper edition is 0041-7904.

Private Sector Funds Much of Digital Library

The Library's plans to support its National Digital Library Program with contributions from the private sector are proceeding apace.

For example, last October, during the opening of its Digital Library Visitors' Center (see LC *Information Bulletin,* Oct. 31, 1994), Dr. Billington announced that the Library had received $13 million for digitization of its collections: $5 million each from the David and Lucile Packard Foundation and from John Kluge, chairman of the James Madison Council, a private sector advisory group to the Library. The W.K. Kellogg Foundation gave a grant of $3 million to help the Library identify instructional uses of digital library materials (see story on page 266).

Subsequent contributors include Bell Atlantic Corp. ($1.5 million) (see *LC Information Bulletin,* Feb. 20, 1995); the Discovery Channel ($1 million); and Eastman Kodak Co. ($1 million).

The overall goal is to raise a total of $60 million by 2000–$45 million from the private sector and $15 million that the Library has requested from Congress.

Public Usage of LC Internet Initiatives

(as of May 15, 1995)

☐ Total public Internet **transactions** (THOMAS, LOCIS, LC MARVEL, LC World Wide Web and File Transfer Protocol) have averaged nearly 300,000 per day in 1995.

☐ Total THOMAS **transactions** since its introduction on Jan. 5, 1995, were 3,702,652 as of May 6, 1995.

☐ More than 169,115 **individual computers** have accessed the THOMAS system from Jan. 5, 1995, through May 6, 1995.

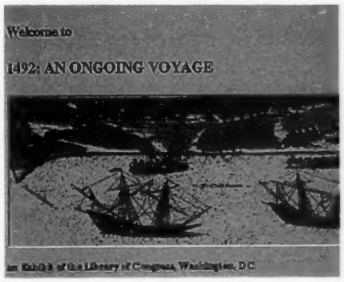
☐ THOMAS **transactions** have averaged more than 30,000 per day, and more than 900,000 per month, since Jan. 5, 1995.

☐ Exhibition **transactions** now average about 3,000 per day.

☐ LC MARVEL **transactions** have averaged more than 1.8 million per month in 1995.

☐ LC World Wide Web **transactions** have averaged more than 1 million per month in 1995.

☐ FTP (file transfer protocol) **transactions** have averaged more that 170,000 per month in 1995.



On-line exhibit; transactions average more than 3,000 daily.

The Guts of the Digital Library:
Information Technology Services Maintains Systems

Standing on the raised floor of the climate-controlled computer center of the Library, the mainframe computer complex experienced a "crossover" in December 1994, when more people tapped into its LOCIS system (Library of Congress Information System) from computers throughout the world over the Internet than from Capitol Hill, where the Library's 22 reading rooms are reserved for researchers older than high-school age.

That reminds Herb Becker, director of Information Technology Services (ITS), of a cartoon in *The New Yorker*. A dog, seated at a computer keyboard, says to another, "On the Internet, nobody knows you're a dog."

Says Mr. Becker: "The minute you go to a network, there is no age requirement. You could be 6 years old or 75 years old. Using the Internet, the Library is reaching out to a much broader community."

Some of the same technological advances that allowed this crossover to occur are now reaching "a point where one can plan and dream and execute a National Digital Library," Mr. Becker said.

Specifically, seven technological advances have created the environment for the emergence of the National Digital Library.

Herb Becker, director of Information Technology Services: "Using the Internet, the Library is reaching out to a much broader community." *Photo by Craig Hobson*

First, said Mr. Becker, personal computers are much more cost-effective and powerful compared to a decade ago.

Second, scanning technology has become cheaper and better, allowing computers to convert manuscripts, pictures and color photographs into computer files that show images having facsimile-like quality.

Third, storage technology has improved both in price and in terms of the amount of physical space required to store information. ITS is closely watching the development of storage technology. "It took us 20 years to get to 400 gigabytes on the central mainframe. . . . In five years, we expect to get to a number of terabytes," Mr. Becker said. A terabyte is 1,000 gigabytes, or a thousand billion bytes.

Fourth, the rapid growth of the Internet, especially during the 1990s, provides ever widening access to the digitized information.

Fifth, said Mr. Becker, the emergence of more widely accepted standards such as the telecommunication protocol known as TCP/IP (Transmission Control Protocol/Internet Protocol) makes it much easier for computers to communicate.

Sixth, increased use of standards such as SGML (Standard Generalized Markup Language) and HTML (HyperText Markup Language) for logically marking up text make it easier for people to share textual information electronically.

And finally, the emergence of standard image formats and compression technologies make it possible to share images via computer.

"In the 1970s and 1980s, a lot of the computer technology was proprietary," said Mr. Becker, who has been working with computers since the punch-card days. "In the late 1980s, many organizations started to deal with more open systems environments, making communications a great deal easier. In many cases, it made it possible to share information over networks."

Although Mr. Becker would never say it, ITS, under his helmsmanship for the past 10 years, has been snapping up the new technologies almost as soon as they become available and applying them as quickly as is feasible.

As a result, in April 1993, the Library opened access via the Internet to LOCIS, an on-line computer version of the Library's bibliographic data that had been developed during the 1970s. "It was another opportunity to explore and utilize the Internet technology to reach a larger user community," said Mr. Becker.

In July 1993 ITS made available on the Internet the Library's gopher, MARVEL (Machine Assisted Realization of the Virtual Electronic Library). MARVEL is a campus-wide information system offering details about the Library. It has subject-specific bibliographies, services for the blind and physically handicapped, copyright information, documents on cataloging and information on products and publications, including the full text of this publication and others published by the Library. MARVEL provides a computer link to LOCIS and other Internet sites.

MARVEL was designed and built by a group of Library staffers, many of whom worked on their own time to assure the project's success.

In June 1994 the Library established a server on the World Wide Web, which allowed ITS and the Library to provide a variety of information. "We did a lot of systems integration with respect to how you retrieve and view information on the computer," said Mr. Becker.

For example, ITS worked with the Library's Interpretive Programs Office to scan and digitize the Library's exhibitions so they could be displayed on the Web. Currently, manuscripts and artifacts from eight exhibitions—more than from any other national cultural institution in the country—can be explored on-line from the Library's homepage.

In January 1995 the Library created THOMAS, a server for congressional information (see related story on page 264). To do so, ITS programmers integrated public domain software, Library computer programs and software developed by the Center for Intelligent Information Retrieval at University of Massachusetts at Amherst.

As each system was launched, programmers gathered more information about the use of emerging technologies. "No application system is final. After initial release, we can change them, and if we get a lot of feedback, we will," said Mr. Becker. For example, users notified the Library that the "masthead" on the Library's homepage was taking too long to appear on their computers. In response, ITS changed the image, cutting the number of bits by 60 percent, and it now appears much more quickly.

Storage technology and changes in the national telecommunications infrastructure continue to be tracked by Mr. Becker, because they influence decisions about the priorities for digitizing the content of the National Digital Library. For example, because of the amount of storage required to provide motion pictures and recorded sound, the Library does not plan to immediately digitize large parts of its vast collection of film and sound recordings, although the Library is experimenting with these materials. Another reason not to digitize large parts of the collections is that most homes and businesses do not yet have the telecommunication capacity to receive pictures and sound via computer. By the time regulatory issues are worked out and cable TV and regional telephone companies decide who is going to provide the appropriate bandwidth to homes and businesses to allow two-way communication including sound and motion pictures, technology and storage issues will probably have worked themselves out as well, making it cost effective and practical for the library to digitize much more of those collections, Mr. Becker said.

On the other hand, the Prints and Photographs Division has so far contracted to digitize more of its collection than any other specific collection in the Library, he said, noting the still images take less storage space.

To manage the data effectively, ITS is exploring systems that deter-

(Cont. on p. 279)

"On the Internet, nobody knows you're a dog."

Drawing by P. Steiner, copyright 1993 The New Yorker Magazine Inc.

In the Spirit of Jefferson:

THOMAS Delivers Latest Legislative Information

The Library's systems engineering manager got an unexpected call at home the night of Dec. 15 from the Deputy Librarian.

Could the Information Technology Services (ITS) department put all the congressional bills, e-mail addresses and information from the *Congressional Record* on a World Wide Web server in time for the opening of the 104th Congress on Jan. 4?

"Who is this really?" asked Judith Stork-Kittleman, who was already managing her departmental budget, personnel and training in addition to serving as line manager for systems engineering in ITS.

But Hiram Davis, the Deputy Librarian, told her the initiative, which would make congressional information available for free, came from the new congressional leadership. He added that he had already cleared the top-priority assignment with her boss.

The next day, Ms. Stork-Kittleman and a team of skilled programmers in ITS, including Dean Wilder, Phillip Thomas, Cheryl Graunke, Tom Littlejohn, Susan Thomas and Maryle Ashley, got to work. "The first few days, we spent our time trying to figure out what we could do in such a short period. Then we got down to business." That was Christmas day, and they had only 10 days left to create the THOMAS Web server, which was to include hypertext links to volumes of information.

Standing in front of the computer that runs THOMAS are (from left): Tom Littlejohn, Dean Wilder, Maryle Ashley, Judith Stork-Kittleman, Susan Thomas and Phillip Thomas. Not pictured: Cheryl Graunke. *Photo by Yusef El-Amin*

The team spent the holidays working 18-hour shifts in a rabbit warren of computer cubicles, making frequent trips to Ms. Stork-Kittleman's office, where two 3-pound cans of coffee kept a coffee maker busy.

"I don't think any of us could have put in the energy and time if we didn't think it was necessary," said Ms. Stork-Kittleman. "Because the information is legislative and comes from Congress, it seemed to us an important step when Congress said, 'We want to give this information to the people free of charge.'"

THOMAS, named for Thomas Jefferson, the Library's spiritual founder, is stored on about 10 gigabytes of magnetic disk space. The disks occupy about as much space as a bread box but have the capacity of more than 50 standard PC hard drives.

After feverish work by the THOMAS team, the system was ready for the opening of the 104th session of Congress on Jan. 4, but wasn't announced until the next day, by Dr. Billington and House Speaker Newt Gingrich (R-Ga.), who said it would change "the balance of power in America toward the citizens and out of the Beltway."

So "we got a one-day reprieve," Ms. Stork-Kittleman says. In addition to the Librarian and Chief of Staff Suzanne Thorin, Ms. Stork-Kittleman has been taped for four TV news shows and interviewed by reporters from countless newspapers. The pile of clippings on her desk is more than an inch thick.

In part because of that publicity, 169,000 individual users had tapped into THOMAS by early May, together racking up an average of about 30,000 transactions, or file transfers, *every day*. The users have sent THOMAS about 1,500 e-mail messages, most of them positive or offering suggestions for improvements. Their input has helped the system change and grow.

At first THOMAS listed only House and Senate bills from the 103rd Congress and, as they were

introduced, the 104th. It also provided links to the House and C-SPAN gophers and the e-mail addresses of members of Congress. "We had a list of House member e-mail addresses in raw ASCII and it didn't look pretty," said Ms. Stork-Kittleman. A user downloaded the list, reformatted it and e-mailed the revised version back to THOMAS.

A link to the Senate gopher was soon added, and the Library recently added "hot bills," a category that shows bills that get a lot of attention in Congress. They are listed by title, topic and bill number.

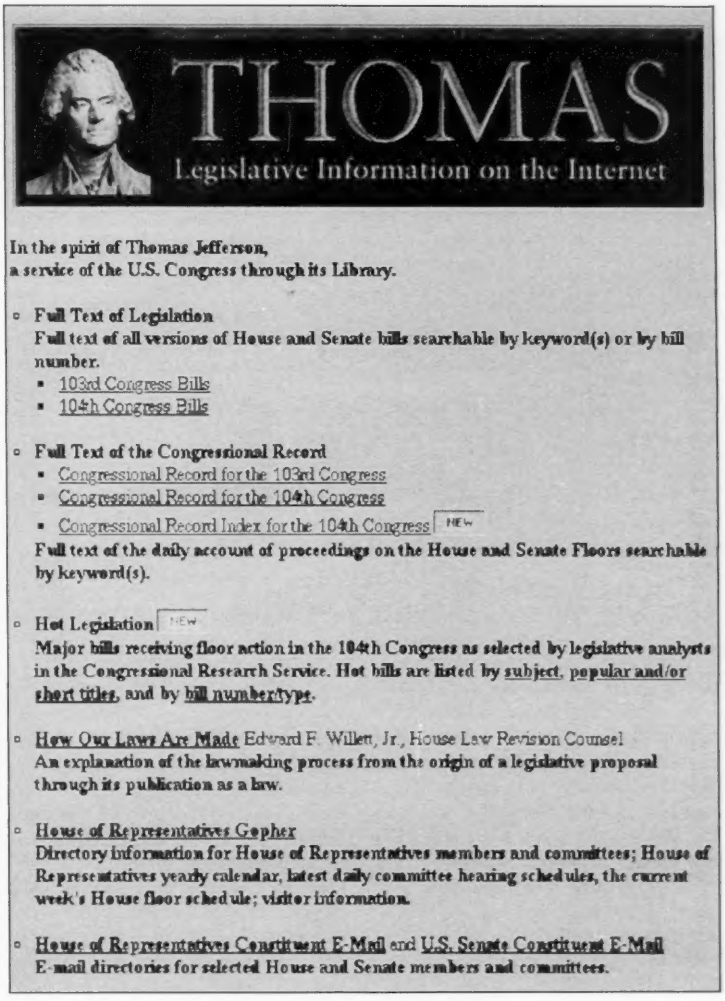
"After the bombing in Oklahoma City, we were getting a lot of searches on 'Oklahoma City,' 'terrorist' and 'antiterrorist,' and we thought there must be a way to help people quickly find things that are coming up in Congress," Ms. Stork-Kittleman said.

Also recently added was the *Congressional Record* index for the 104th Congress.

In the first weeks of the 5-month-old system, users helped debug THOMAS, whose bill titles initially appeared jumbled because of embedded coding in the electronic documents, which the Library buys from the Government Printing Office (GPO) for about $10,000 a year. Now most of the title problems have been worked out, but the team is still working on how to format tabular material. And this summer, team members plan to continue to refine the programs so THOMAS can recognize things such as dates and bill numbers, a task that is more complicated than it sounds, Ms. Stork-Kittleman said.

"For example, there are a lot of ways people can write a date. We write the programs so they accept all the different ways, like March 3, 3/3 and Mar. 3," she said. "Just when we think we've thought of every possible way, they throw another one at us."

Besides user input, another big help in setting up THOMAS was


THOMAS
Legislative Information on the Internet
In the spirit of Thomas Jefferson,
a service of the U.S. Congress through its Library.
Full Text of Legislation
Full text of all versions of House and Senate bills searchable by keyword(s) or by bill number.
103rd Congress Bills
104th Congress Bills
Full Text of the Congressional Record
Congressional Record for the 103rd Congress
Congressional Record for the 104th Congress
Congressional Record Index for the 104th Congress NEW
Full text of the daily account of proceedings on the House and Senate Floors searchable by keyword(s).
Hot Legislation NEW
Major bills receiving floor action in the 104th Congress as selected by legislative analysts in the Congressional Research Service. Hot bills are listed by subject, popular and/or short titles, and by bill number/type.
How Our Laws Are Made Edward F. Willett, Jr., House Law Revision Counsel
An explanation of the lawmaking process from the origin of a legislative proposal through its publication as a law.
House of Representatives Gopher
Directory information for House of Representatives members and committees; House of Representatives yearly calendar, latest daily committee hearing schedules, the current week's House floor schedule; visitor information.
House of Representatives Constituent E-Mail and U.S. Senate Constituent E-Mail
E-mail directories for selected House and Senate members and committees.

The homepage of THOMAS, which has been available since Jan. 5, 1995, as an initiative of the 104th Congress

ITS's close relationship with the University of Massachusetts at Amherst, where programmers at the Center for Intelligent Information Retrieval created Inquery, the software tool kit for building full-text retrieval applications that was used to create THOMAS. Mr. Wilder, the lead programmer for THOMAS, works with the Amherst programmers regularly. "They fixed bugs and added features based on what we needed. They really were a partner," he said.

Future enhancements will include the Bill Digest files. The files are summaries and chronologies of legislation compiled by the Library's Congressional Research Service.

The team would also like to add a listing of all public laws to THOMAS.

(Cont. on p. 279)

Digital School:

Kellogg Grant Focuses on K–12 Students

Susan Veccia (left) and Martha Dexter discuss how to make the Library's digital materials useful to K–12 students. *Photo by Will Dalrymple*

One of the gifts the Library received to fund its National Digital Library Program will enable it to reach a constituency it does not usually serve: students in grades 12 and below.

The Library's reading rooms are open only to those above high school age, but the $3 million grant from the W.K. Kellogg Foundation is earmarked for the Library's exploration of instructional uses of digital materials for young students.

"Although the Library is not an expert in educational curriculum, all these digitized materials are available much more publicly than they have been before," said Martha Dexter of the Digital Library Program's educational services area. "We feel a responsibility to make sure that they be used effectively by students."

The Library has begun work on a local history project geared toward students in the upper Midwest. "One thing we knew teachers wanted immediately was local history," said Susan Veccia, who is also working in educational services.

Ms. Veccia is confident of this need because she was a member of the staff of American Memory, a five-year pilot (and two-year test, resulting in a detailed report) that the Library conducted at 44 sites across the country. The pilot provided the participating institutions with digital materials from the Library's collections on CD-ROM. When the project ended last year, a user evaluation was issued. Because the evaluation showed that schoolchildren were the heaviest users of American Memory materials, the Library felt an obligation to continue to explore ways to deliver primary sources to this "core audience" in the most useful manner possible.

As more and more schools get Internet access, the challenge is to "let them know where to find our materials," said Ms. Dexter. "We are thinking of developing a homepage within the Library's main homepage that would specifically be aimed at teachers." This homepage would help teachers navigate through the Library's on-line collections to find materials appropriate to their curricula.

"One thing I've heard from teachers," said Ms. Dexter, "is that 'we love this stuff, but we have very structured curricula. Yes, we see the potential, but we also have hardly any time to plan outside the existing curricula.'"

Thus the Library will be working with education consultants who will make suggestions on how best to target and make available digitized materials that can enrich the students' educational experiences.

According to Ms. Veccia, "One of the early and important tests we will be conducting will be to write representative lesson plans that will accompany the digitized collections. The consultants will help us identify schools that will use these plans. But we won't be designing the schools' curricula. That is for them to decide. What we will be designing are 'pathfinders' to our own collections."

One lesson that Ms. Dexter and Ms. Veccia have already learned is that the use of digitized collections stimulates students to go to other resources, such as books, to complete their research. They have also learned that most students "have no fear," unlike some adults, of using digitized materials. "It's the equivalent of channel surfing" with the remote control of a television, said Ms. Dexter.

Once the digitized Library collections are ready, they will be tested in a variety of settings: rural and urban schools—some of which are technologically advanced and some that are not.

(Cont. on p. 279)

Copyright in the Digital Age:
CORDS Project to Make Registration, Verification Easier

A classic case of technology advancing faster than the controls for its use exists in the copyright arena.

Digitization and the Internet make it possible to transmit materials anytime, anywhere. Both hard and electronic copies can be made at the press of a button.

But intellectual property rights of creators can be compromised by the technology that makes near-instantaneous transmission of data possible. Those using this information may not even know they are violating intellectual property rights.

One of the features of a Library of Congress and Copyright Office project, called CORDS (Copyright Office Electronic Registration, Recordation and Deposit System), will be to allow users to check electronically the copyright registration and ownership status of a particular work. Registration of works in digital form will also be achieved.

"We need effective new ways to manage copyrighted materials in the new digital environment," said Mary Levering, associate register for National Copyright Programs.

"Rights holders need to move from the old, costly and time-consuming rights-clearance systems to ones in which ownership and licensing information is readily available."

CORDS is designed to help meet those needs in its three component systems:

☐ The Electronic Registration and Recordation System of CORDS will enable copyright applicants to prepare their copyright applications and deposit materials in machine-readable formats, to digitally "sign" their submissions using public key/private key encryption technology and to send applications, deposits and documents to the Copyright Office over the Internet, using Privacy Enhanced Mail, or PEM.

The system will enable the Copyright Office to receive digital submissions through the Internet, verify that each one is authentic and complete, debit fees from the applicant's Copyright Office deposit account and send an electronic acknowledgment to the applicant. The Copyright Office digital repository will hold these digital copyright deposit materials in a secure manner.

☐ Existing Copyright Office systems for cataloging and processing will be compatible with the new components.

☐ The Handle Management System will assign a unique "handle" as an identifier to each digital object registered. The handle is used to find the location of the digital object as well as its rights-management information.

"We need to design and develop the system that will store and retrieve copyrighted works in digital form from secure repositories to facilitate electronic dissemination in accordance with terms and conditions established by copyright owners—and we need to do this quickly," said Mrs. Levering, when discussing why the Copyright Office must develop such a system.

"Our objective is an easily accessible centralized system that will serve the public as well as authors and other copyright owners," she added.

Currently, much of the registration work of the Copyright Office begins with the receipt of a paper application sent by mail.

The CORDS testbed phase is due to begin in the summer of 1995. Testbed results will then be analyzed and changes made; follow-up test pilots will be developed. In 1996 efforts will begin to test digital registration and deposit of published textual materials, and participants will be chosen to cooperate in further testing on a format-by-format basis.

In 1997 plans call for inclusion of graphic materials such as illustrations and photographs, as well as sound recordings and music. Motion pictures and audiovisual works will be addressed in 1998.

According to Marybeth Peters, register of copyrights, "As we receive more and more applications, deposits and documents electronically, we will see savings in the processing of such materials, and eventually in certain areas we will be able to reduce the number of employees required to do the job."

Currently an average of six staff members are needed in the various stages of the manual registration system to process approximately 10,000 claims per year. Under CORDS, this could be reduced ultimately to one or two persons per 10,000 claims.

Because CORDS is a digital system, it will reduce the processing and storage of digital works from the current 17 physical steps to six purely on-line processes, requiring no physical resources or storage areas other than workstations and file servers.

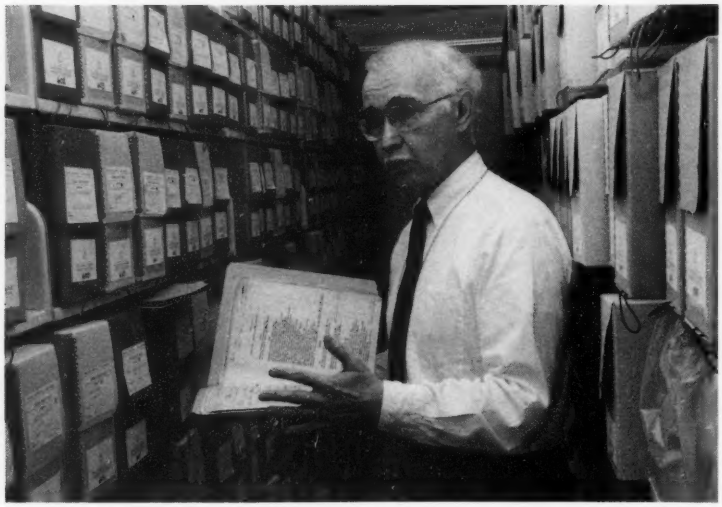
Thus for all works registered solely through CORDS, there will later be a tremendous savings both in personnel and space. There will also be no need to store and transport physical material.

"Most important," said Mrs. Levering, "service to Congress and the nation will be improved," as copies of works in digital form and rights-management information needed for required licensing and permissions can be made much more quickly available.

—*Guy Lamolinara*

Experimental Theater:

Project Looks at Digitizing Federal Theatre Project Collection

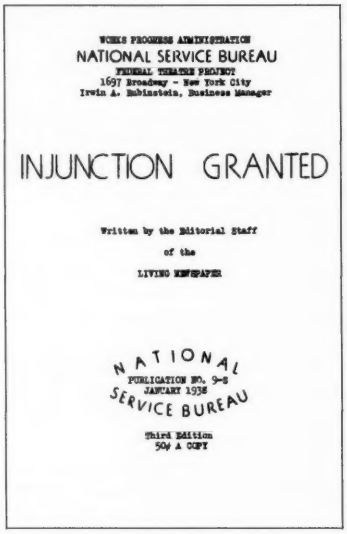


Walter Zvonchenko in the Music Division looking at a play script that was recently digitized from the Federal Theatre Project Collection. *Photo by Will Dalrymple*

In the middle of a half-empty room, a long-haired electrical engineer with wire-rimmed glasses set up a computer and scanner to digitize manuscripts for the National Digital Library.

The engineer, D. Michael Ott, was surrounded by boxes of software, binders, disk storage containers and blue and metal packing crates. Behind him, a few office partitions made cubbyholes for some of the members of the Digital Library team. In front of him, the room was empty except for the electrical sockets sticking up from the beige carpeting.

"This is mission control," said Mr. Ott, who at 43 is chairman of the board of Picture Elements Inc., a document imaging company in Berkeley, Calif., and Washington, D.C. Last fall, the company won a competitive bid to survey the scanners and enhancement software on the market and scan a handful of manuscript documents to determine the best way to digitize them.



WORKS PROGRESS ADMINISTRATION
NATIONAL SERVICE BUREAU
FEDERAL THEATRE PROJECT
1697 Broadway - New York City
Irwin A. Rubinstein, Business Manager

INJUNCTION GRANTED

Written by the Editorial Staff
of the
LIVING NEWSPAPER

NATIONAL SERVICE BUREAU
PUBLICATION NO. 9-8
JANUARY 1936

Third Edition
50¢ A COPY

Cover of *Injunction Granted*, from the Federal Theatre Project Collection.

The project is sponsored by the Preservation Directorate and is being carried out in cooperation with LC's National Digital Library Program. In its first phase, the project calls for Mr. Ott to digitize 35 manuscripts from the Federal Theatre Project (FTP), a 1930s New Deal program for unemployed theater people who staged productions nationwide under the auspices of the Works Projects Administration.

The archives, the bulk of which was transferred to the Library from the FTP's Washington office in 1940, consists of play scripts, musical scores, photographs, posters, costume and set designs, scrapbooks, newspaper clippings and office files. It is housed in the Library's Music Division.

"The FTP is an archetype of a manuscript collection. It contains documents of every sort—handwritten documents on legal paper, typed documents on white or onionskin paper, documents mimeographed on reddish paper, and 3-by-5 cards with scribbles on them—and lends itself well to a research and development project like this," said Carl Fleischhauer, coordinator for American Memory, the Library's five-year pilot project in which 20 American history collections were digitized and 10 were made available on CD-ROM to 44 schools and libraries.

While American Memory proved digitization of LC historical collections was worthwhile and illustrated its educational potential, the current experiment seeks to increase the Library's knowledge of digital imaging and find safe ways to digitize fragile items.

"A key issue for the Library is finding the most judicious balance between conserving precious original documents—protecting them from

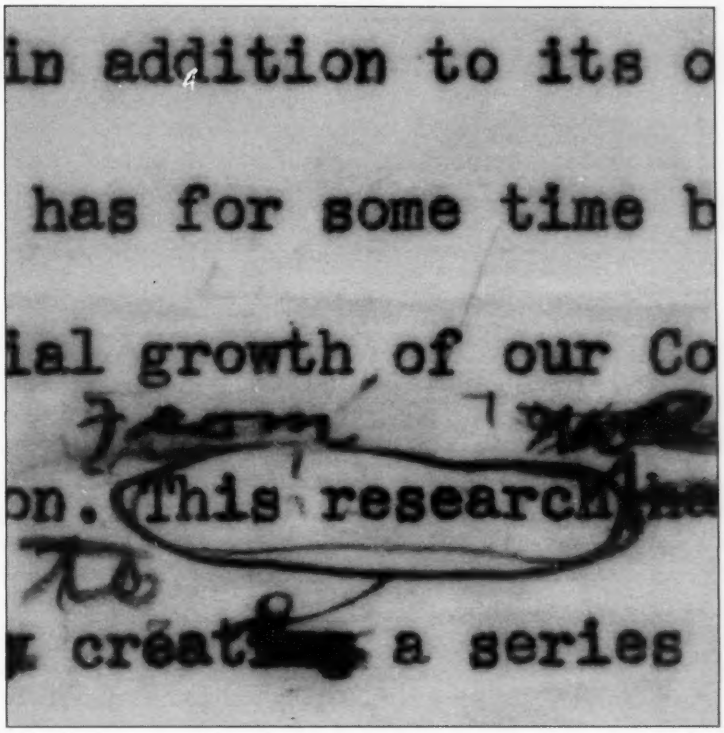
damage—and achieving a reasonably rapid rate of conversion," said Diane Kresh, the Library's preservation director. She added that many of the documents are fragile. "We want to digitize the documents only once. We don't want to have to go back and do it again."

It took Mr. Ott one minute to digitize a typed, double-spaced letter: 20 seconds to scan the material onto the computer's hard drive and another 40 seconds to "compress" it so it didn't hog space. The letter took about 8 megabytes of space before compression, but only one-tenth of that afterward. The material was then copied to a recordable CD, which can be archived as well as uploaded to the Library's Web server.

All 35 documents in the first phase of the project are manuscripts. The project is focusing on manuscripts in order to set digitization standards for this type of material, Ms. Kresh said. One question is whether to use bitonal or grayscale scanning. Bitonal scanning is black and white, while grayscale allows a range of shades between black and white.

"We're trying to solve the problem of digitizing manuscripts that have both dark typewriter ink and light pencil markings," said Mr. Fleischhauer.

In the experiment, the documents are being digitized at several different resolutions. Images being considered for archival purposes are grayscale and color, scanned at resolutions of 300 and 600 dots per inch. The test images proposed for reference use and Internet dissemination are bitonal at 300 dots per inch, with additional consideration given to grayscale images at 150 or 200 dots per inch. Mr. Ott's system creates the lower-resolution images by reprocessing the higher-resolution examples without need to rescan the original document. During the first phase, the sample images will be reviewed by a team of Library preservation officials, music specialists, conservators and computer operators.



Part of the experiment focused on digitizing documents with both pencil markings and typewriter ink. This digital version of a document was scanned at 600 dots per inch.

The findings will be incorporated in a report that will be posted on the Library's World Wide Web server (Uniform Resource Locator: **http://www.loc.gov**) by fall.

Assuming additional funding is available, the project will proceed to a second phase, in which a portion of the manuscripts from the FTP collection will be digitized.

The Music Division is also exploring options to digitize the musical scores, posters and other nonprint media in the collection, according to Charles Finley, acting assistant chief. Besides being in color, some of the items, such as posters, are large format, or in the case of set designs, may be three-dimensional and require different scanning technologies than manuscripts.

In the meantime, Walter Zvonchenko, the music specialist who has worked closely with the FTP Collection, says, "It's great that the collection was chosen for this study. If any portion of it can be made widely available to researchers, scholars and casual users via the Internet, there will be more opportunities for people to learn about an aspect of American cultural history that might have been previously unknown to them."

—*Yvonne French*

How to Access LC Digital Collections

The digital collections from the Library are available on the Internet. Instructions for access are on the following pages.

on Internet

INTERNET RESOURCES FOR THE PUBLIC

The Library of Congress Gopher: LC MARVEL

The Library of Congress provides Internet access to its campus-wide information system, LC MARVEL (Machine-Assisted Realization of the Virtual Electronic Library), based on Gopher software from the University of Minnesota. LC MARVEL provides information by and about the Library as well as links to a vast and diverse collection of Internet resources worldwide, all arranged in an easy-to-navigate hierarchical menu structure. Although most information on LC MARVEL is available in plain text (ASCII format), LC MARVEL also offers Library of Congress image files (e.g., gif and jpeg formats) and a small number of files in special formats (e.g., WordPerfect and audio files).

LC MARVEL resources include the Global Electronic Library, a "subject tree" with links to thousands of Internet sites worldwide; a rich variety of Federal, state and local, foreign and international government information; Internet resources on the U.S. Congress, including links to the text of legislation, bill summary and status, the full text of the *Congressional Record*, and e-mail addresses for Members of Congress and committees; links to Internet tools and software (e.g., Archie, Veronica, Hytelnet, World Wide Web, listservs and directory services); Internet guides and documentation; image and text files from the Library's exhibits; information on Library services for visitors and researchers; background on Library collections and reading rooms; subject-specific bibliographies and guides; services for the blind and physically handicapped; information on LC publications and products; Center for the Book reading and literacy programs; documents on cataloging (including the CIP, ISSN, and ISBN programs), acquisitions, standards, and preservation; copyright information, including circulars, form letters and regulations; and employment opportunities both inside and outside the Library. A link to the Library of Congress Information System (LOCIS) and guides on how to search LOCIS files are also provided under MARVEL.

The LC MARVEL main menu is displayed below:

1. About LC MARVEL
2. Events, Facilities, Publications, and Services
3. Research and Reference (Public Services)
4. Libraries and Publishers (Technical Services)
5. Copyright
6. Library of Congress Online systems
7. Employee Information
8. U.S. Congress
9. Government Information
10. Global Electronic Library (by Subject)
11. Internet Resources
12. What's New on LC MARVEL
13. Search LC MARVEL Menus

Access: Access is provided by direct telnet to **marvel.loc.gov**. Login as **marvel**. Direct telnet provides the user access to MARVEL through a courtesy gopher client on the MARVEL server; however, access is limited to 15 simultaneous sign-ons. *The preferred method of access is through a local gopher client or via another gopher server pointing to **marvel.loc.gov, port 70** (the 15-port user limit does not apply to this access method).*

Reporting Problems: Reports of technical problems may be sent via Internet mail to **lcmarvel@loc.gov**

on Internet

INTERNET RESOURCES FOR THE PUBLIC

LOCIS : Library of Congress Information System

Through the Library of Congress LOCIS system, Internet users have access to over 27 million records in the following files:

LC Catalog: Contains bibliographic records for materials in a variety of formats and languages cataloged and held by the Library of Congress. Formats include books, serials, microforms, cartographic items, music, visual materials (films, filmstrips, posters, prints, photographs), computer files, manuscripts, thesauri of names and subject terms used in cataloging records, catalog records reported from some other research libraries, records for some specialized bibliographies, e.g., *The Handbook of Latin American Studies*.

Federal Legislation: Contains summaries, abstracts, chronologies and status information for legislation since 1973, and the full text of legislation since 1993. Records for the current Congress are up-to-date within 48 hours.

Copyright: Contains records for all materials registered for copyright since January 1978 and references to documents describing copyright legal transactions, such as name changes and assignments.

Braille and Audio: Contains records for materials designed for persons unable to read standard print; materials include Braille, recordings (cassette and disk), and some large-print items.

Guides and Organizations: *National Referral Center Master* file contains records describing over 13,000 research organizations primarily in science, technology and social sciences) which answer questions and supply information to the public. The *Science Tracer Bullets* file contains records for guides and resources in science and technology topics.

Foreign Law: Contains records that abstract and cite foreign laws and regulations as well as journal articles on legal topics. Presently, primarily Hispanic-speaking countries are represented.

Access: Telnet to **locis.loc.gov**. 90 simultaneous logons are available. Both 3270 and line mode (TTY) connections are supported. Hours of access (Eastern time): Monday-Friday, 6:30 a.m. to 9:30 p.m.; Saturday, 8:00 a.m. to 5:00 p.m.; Sunday, 1:00 p.m. to 5:00 p.m. LOCIS has online help screens; documentation on how to search LOCIS is available in LC MARVEL and the Library's FTP site (**/pub/lc.online**). LC ACCESS is a public domain software product providing an easy mouse-driven graphical interface to selected LOCIS files and features. LC ACCESS software may be obtained via anonymous FTP at ftp.loc.gov in the /pub/lc.access directory. Installation instructions and hardware and other software requirements are specified in the README.TXT file in that directory. To run LC ACCESS software, FTP Software, Inc.'s PC/TCP version 2.3 is required.

Reporting Problems: Search questions and reports of technical problems may be sent via Internet e-mail to **lconline@loc.gov** Questions regarding LC ACCESS software may be sent via Internet e-mail to **lcaccess@loc.gov**

Library of Congress Electronic Mail Forums and Newsletters

The Library of Congress currently hosts a number of electronic lists (including discussion forums and newsletters). Several of the most popular deal with cataloging issues, such as LCCN@LOC.GOV (LC Cataloging Newsline), CONSRLIN@LOC.GOV (CONSER Program Newsletter), and USMARC@LOC.GOV (USMARC Advisory Group forum). FEDLINK (Federal Library and Information Network) also produces an electronic newletter: FEDLIB-L@LOC.GOV (FEDLINK Library Network News). To get a current list of LC-hosted mailing lists, send the following command to LISTPROC@LOC.GOV: **lists**

Access: You may subscribe to any Library of Congress-hosted public list (those not limited to Library of Congress staff) by sending the following command as an e-mail message to the server address **LISTPROC@LOC.GOV**. No subject line is required.

subscribe ***listname Yourfirstname Yourlastname*** (Example: **subscribe LCCN Melvyl Dewey)**

on Internet

INTERNET RESOURCES FOR THE PUBLIC

The Library of Congress World Wide Web: LC WEB

What is World Wide Web?

World Wide Web (WWW) is an Internet-based online information delivery tool created by **CERN** *(European Laboratory for Particle Physics)*, making use of hypertext and hypermedia documents. Hypertext/media refers to specially coded textual or multimedia documents that can link to other documents. In order to access WWW over the Internet, a "browser" client appropriate to your computing platform is used. There are WWW browsers for DOS, Windows, OS/2, Macintosh, and UNIX platforms as well as many others. Some browsers allow for the display of graphics and other multimedia effects (such as audio and full-motion video), while others do not. (Note that additional hardware or software may be required for the display or playing of many of the special-format files available on the WWW.) Some of the more popular WWW browsers can be obtained free-of-charge via anonymous FTP.

What does the Library of Congress Offer on WWW?

- **Electronic exhibits**: *The Temple of Liberty: Building the Capitol for a New Nation, The Gettysburg Address, The Russian Church and Native Alaskan Cultures, African-American Culture and History, 1492: An Ongoing Voyage, Scrolls from the Dead Sea, Revelations from the Russian Archives, Rome Reborn: the Vatican Library and Renaissance Culture*
- **American Memory Project:** Digitized prints, photographs, and films along with interpretative text from the Library's Americana collections, including the Carl Van Vechten photographs; the Walt Whitman notebooks; color photographs from the Farm Security Administration; early motion pictures, 1897-1916; WPA Federal Writers' folklore project; political speeches by American leaders, 1918-1920; and selected Matthew Brady Civil War photographs
- **LC Special Collections**: Descriptions of Americana collections arranged by region, subject, format, and chronology
- **Country Studies** from the Federal Research Division and the **Vietnam Era POW-MIA database**
- **Library of Congress services and publications** from the American Folklife Center, the National Library Service for the Blind and Physically Handicapped, and the Newspaper and Current Periodicals Reading Room; information on LC publications and the 1995 Cataloging Distribution Service Sales Catalog
- Access to other **LC online systems**, such as **LC MARVEL**, the Library of Congress gopher, and **LOCIS**, which includes the Library's computerized catalog records, legislation digests from 1973 and text from 1993, copyright information, braille and audio records, guides and organization information, and abstracts of foreign law and law journal articles, primarily for Hispanic countries
- **Indexes to Internet resources** on the Federal government executive and legislative branches, state and local governments, World Wide Web meta-indexes, WWW "how-to's," and Internet tools, guides, policies and documentation
- A link to the Library's **THOMAS** WWW legislative system, with searchable full text of bills and the *Congressional Record* from the 103th and 104th Congresses.

Availability and How to Connect

The current Library of Congress WWW offerings can be accessed via a "homepage" or initial selection screen. Connections to WWW resources are made by specifying a Uniform Resource Location or **URL** through your client software. The URL for LC WEB is:

http://www.loc.gov

on Internet

INTERNET RESOURCES FOR THE PUBLIC

THOMAS: Legislative Information on the Internet

What is THOMAS?

THOMAS is an online public access system of legislative and Congressional information named in honor of Thomas Jefferson. Initiated by the leadership of the 104th Congress, THOMAS is being made available free to Internet users through the Library of Congress. Since it is based on the Internet system known as World Wide Web, to use THOMAS, one should have a computer with Internet access, and World Wide Web client or "browser" software. (Although many large non-profit institutions and businesses already have an Internet connection, dial-up Internet access may be obtained by the private user, for a fee, from an Internet service provider. Reference staff at a local library or the employees of a local computer store may be able to provide the names of commercial service providers.)

What is World Wide Web?

World Wide Web (WWW) is an Internet-based online information delivery tool created by **CERN** *(European Laboratory for Particle Physics)*, making use of hypertext and hypermedia documents. Hypertext/media refers to specially coded textual or multimedia documents that can link to other documents. In order to access WWW over the Internet, a client or "browser" appropriate to your computing platform is used. There are WWW browsers for DOS, Windows, OS/2, Macintosh, and UNIX platforms as well as many others. Some of the more popular WWW browsers can be obtained free-of-charge via anonymous FTP, while other browser software may be purchased, often through Internet access providers.

What does THOMAS offer?

THOMAS currently offers the full-text of bills from the 103rd and 104th Congresses, searchable by bill number or by key word(s); or browsable by bill type. THOMAS also provides the full-text of the *Congressional Record* for the 103rd and 104th Congresses, searchable by keyword(s) or speaker; or browsable by date and part; and the *Congressional Record Index*, with links from bill numbers to the text of the bills, and links from a *Congressional Record* page number to the full text of that page. Search results for full-text searches are returned in a list ordered by degree of relevance to the search query. The "relevancy-ranking" search system underlying THOMAS is INQUERY, developed at the University of Massachusetts. Search aids, explaining how to search and how relevancy ranking works, are also provided. THOMAS also offers a section entitled "Hot Legislation," consisting of links to the full text of major bills receiving action/attention in the 104th Congress. "Hot Legislation" is organized by bill number, short or popular titles of the legislation, and by subject.

In addition, THOMAS offers *How Our Laws Are Made*, an explanation of the legislative process; House and Senate constituent e-mail addresses for members and committees; and links to the House of Representatives gopher (including member and committee directories, yearly calendar and Floor and Committee schedules); to the Senate gopher; to the C-SPAN gopher (including program schedules, press releases, and election results); to the Library of Congress World Wide Web pages; and to the Library of Congress gopher (LC MARVEL).

Future Enhancements: Information from the Federal Legislation files for the 103rd and 104th Congresses, currently available in the Library's LOCIS system, will be integrated into the THOMAS system, and will include bill summaries, chronologies, sponsor and amendment information, and Public Law numbers.

Availability and How to Connect: THOMAS is available 24 hours a day. Connections to WWW resources are made by specifying a Uniform Resource Locator or **URL** through your locally loaded client software. *This is the preferred method of access*. The URL for THOMAS is: http://**thomas.loc.gov** Access is also provided by direct telnet to **thomas.loc.gov** Login as **thomas** This access method provides a text-based browser only (it allows no viewing of graphics or images) and is limited to 20 simultaneous sign-ons.

Reporting Problems: Reports of technical problems should be directed to: **thomas@loc.gov**

on Internet

INTERNET RESOURCES FOR THE PUBLIC

The Library of Congress FTP Site

The Library of Congress provides a variety of large text files and binary files (e.g., images, WordPerfect documents, compressed files) on a central computer for anonymous file transfer via FTP (file transfer protocol) by Internet users. Files are arranged in subdirectories under the **/pub** directory. Files and subdirectories include:

Files:

README	Description of the organization and contents of each of the **pub** directories
INDEX	Listing of all the **pub** files including file size and creation date

Subdirectories:

american.memory	Reports, evaluations and proceedings on the Library's American Memory project
collections.services	Documentation and reports from LC Collection Services unit
copyright	Lengthy copyright documents and regulations
exhibit.images	Images and text from a variety of LC exhibits, including *1492: An Ongoing Voyage, Scrolls from the Dead Sea, Revelations from the Russian Archives, Rome Reborn, The African-American Mosaic*, and *The Russian Church and Native Alaskan Cultures*.
flicc	Files by and about the Federal Library and Information Center Committee (FLICC), a branch of the Library which helps federal agencies achieve better utilization of resources, and FEDLINK (the Federal Library and Information Network), a cooperative program of FLICC which provides agencies with cost-effective access to information- or operations-support services
folklife	Text of *Folkline*, a cooperative weekly e-journal on folklife issues published by the American Folklife Center of the Library of Congress and the American Folklore Society
lc.access	Software and documentation for the ACCESS user-friendly graphic user interface to the Library of Congress Information System (LOCIS)
lc.internet	Description of the Library of Congress Internet services, including LC MARVEL (the LC gopher) and the LC World Wide Web server
lc.online	Description of and guides to searching LOCIS
marc.test	USMARC classification test records and technical reports information
mss	Manuscripts Division finding aids, etc.
nls	Bi-monthly book listing and cumulative catalogs of the National Library Service for the Blind and Physically Handicapped (NLS)
preservation	Book/paper preservation reports and images
reference.guides	Full text of various reference guides, finding aids, and bibliographies produced by LC reference staff
thomas	Full text of legislation, including all versions of each bill, from the 103rd and 104th Congresses. (**Note**: Do **not** list files in these directories; get the README file for instructions on how to ftp bill texts.)
z3950	Recent versions of the Z39.50 standards and documentation

NOTE: The directory structure and files available are subject to change without notice.

Access: The FTP host is freely available to Internet users at the host address **ftp.loc.gov**. Login as **anonymous** and provide your e-mail address as the password.

News from the Center for the Book:

Minnesota Hosts Library-Head Start-Museum Workshop

"Wow!" What an experience. The enthusiasm and dedication of this group was inspiring, and I can't wait to return to Moline and begin collaboration efforts," wrote Rozanne Steffens, executive director of Quad City Kids and Co. of Moline, Ill., on the evaluation form for the Center for the Book's Library-Head Start-Museum partnership workshop, held in St. Paul on April 27–29.

More than 90 Head Start teachers and administrators, librarians who serve children and museum specialists from Illinois, Indiana, Michigan, Minnesota, Ohio and Wisconsin participated in the workshop, which was organized and hosted by the Minnesota Center for the Book.

The purpose of the partnership workshop was to develop guidelines and ideas for cooperative projects that bring libraries, museums and Head Start programs together at the community level to promote reading and family literacy. The emphasis is on sharing community resources to foster lifelong learning among young people.

"This was our first workshop to focus on a federal administrative region (Federal Region V) and only the second to include museums," said John Y. Cole, director of the Center for the Book in the Library of Congress. "Many local and regional partnerships were created—and others were renewed. We also learned about existing book and reading projects in museums and stimulated many informal and, we hope, several formal, agreements. Our hope is to sponsor three more workshops at the state level in the next fiscal year."

The Federal Region V workshop was an extension of the Library-Head Start Partnership Project that began in 1992 with a joint agreement between the Center for the Book and the Head Start Bureau of the Department of Health and Human Services. Workshops, all hosted by state centers for the book, have been held in Sacramento, Calif. (December 1993); Richmond, Va. (March 1994); Topeka, Kan. (May 1994); and Orlando, Fla. (February 1995).

Janet Rice Elman of the Association of Youth Museums chats with Ann Bitter, president of the Minnesota Children's Museum, during the Library-Head Start-Museum partnership workshop.

More than 350 individuals participated in the five workshops; every state except Hawaii has been represented. An additional 90 people have taken part in project planning sessions held at the Library of Congress on July 13–15, 1992, and Sept. 11–13, 1994.

The Association of Library Services to Children (ALSC), a division of the American Library Association, is the project's major link to libraries. The Association of Youth Museums (AYF) is the principal partnership link to museums.

As in previous workshops, the starting point for the discussions at St. Paul was a viewing of a 40-minute video produced by the Center for the Book during the first phase of the project. Accompanied by a printed guide, the video describes how to form a partnership.

Principal speakers and session leaders at the St. Paul workshop included: Virginia H. Mathews, national project coordinator; Mary Treacy, director, Minnesota Center for the Book; Sharon Shapiro, Head Start specialist, Minnesota Department of Economic Security; Janet Rice Elman, executive director, AYM; Susan Roman, executive director, ALSC; William M. Sullivan, branch manager, Head Start Region V, Chicago.

Also participating were: Gretchen Wronka, Hennapin County Library, Minnetonka, Minn.; Jean Vergeont, vice president, Minnesota Children's Museum; storyteller Mattie Clark; Renee Henry, director of programs, Minnesota Children's Museum; Richard Chase, Amherst H. Wilder Foundation Research Center; and Rhea Lawson, University of Wisconsin-Madison.

A special program and tour for participants was held at the Minnesota History Center on April 27;

Workshop participants discussed how to make effective use of the Library-Head Start-Museum partnership.

Burl Ives with his wife, Dorothy, during his last appearance at the Library, in the Coolidge Auditorium, Sept. 21, 1989.

the speaker was Maureen Otwell, the center's director of education. Edie Meissner was workshop coordinator for the Minnesota Center for the Book.

For a complete list of participants and information about obtaining the video, write the Center for the Book, Library of Congress, Washington, DC 20540-8100.

READ*WRITE*NOW! The Center for the Book is one of nine national organizations supporting READ*WRITE*NOW!, the U.S. Department of Education's summer program to encourage reading and writing among young people. Starter kits may be obtained by calling (800) USA-LEARN.

Burl Ives Remembered. The recent death of the great American balladeer and performer Burl Ives brought to a close a long and warm relationship between Ives and the Library of Congress. "Burl was a special friend of the Library of Congress," wrote Dr. Billington to Burl's widow, Dorothy, on hearing of his death. Ives's most recent visit to the Library was on Sept. 21, 1989, when, under the sponsorship of the Center for the Book, he marked "1989–The Year of the Young Reader" with a special concert for young people in the Library's Coolidge Auditorium. After the concert, which also celebrated his 80th birthday, he presented the Library with one of his three well-loved guitars.

Linda Young of Kalamazoo, Mich., makes a point to workshop participants.

Burl Ives's happy association with the Library of Congress goes back to the 1930s, when he learned many songs from his research in the Archive of American Folk Song and from Alan Lomax, who headed the Archive from 1936 until 1942.

Ives recorded for the Archive in 1938 and 1951 and donated a collection of his recordings, photographs and manuscript materials in 1966. As James Hardin relates in an article in the spring 1990 issue of *Folklife Center News*, Ives "first thought of giving his guitar to the Library in 1978, when he attended the 50th anniversary celebration of the archive and served as master of ceremonies for a concert held that evening."

The guitar occupies a place of honor in the Folklife Center's collections.

Rough Draft:

Jefferson's Draft of Declaration to Go on View

For the first time, the Library of Congress will display the only surviving fragment of the earliest known draft of the Declaration of Independence, written in June 1776 by Thomas Jefferson.

This fragment will be on display at the Library for five days, beginning June 29. The special exhibition, "Declaring Independence: Drafting the Documents," will also include Thomas Jefferson's "original Rough draught" of the Declaration of Independence, which consists of four pages in Jefferson's hand. This draft shows the 86 revisions made by Benjamin Franklin, John Adams, Robert Livingston and Roger Sherman, and the Continental Congress sitting as a committee of the whole.

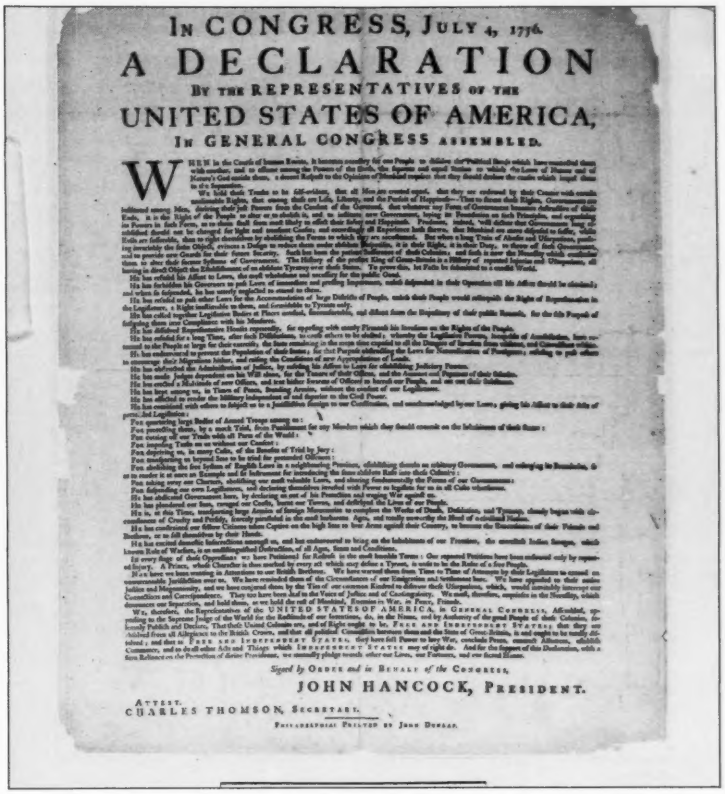
This exhibition is the second in a series of public previews of treasured documents from the collections of the Library. These previews will culminate in the permanent exhibition "Treasures of the Library of Congress," which will open in spring 1997 in conjunction with the grand reopening to the public of the Thomas Jefferson Building, which has been under renovation since 1986.

Also on display will be the following items:

☐ A "Dunlap Broadside," one of 24 surviving copies of the first printing of the Declaration of Independence, published by Philadelphia printer John Dunlap on the evening of July 4, 1776;

☐ A fragment of George Washington's personal copy of the "Dunlap Broadside," which he ordered read to his troops in New York on July 9 and brought home to Mount Vernon at war's end in 1783;

☐ The last letter written by Jefferson, dated June 24, 1826, 10 days before he died, in which he stated that the Declaration should be held up as a beacon of freedom to the rest of the world.



IN CONGRESS, JULY 4, 1776.

A DECLARATION

BY THE REPRESENTATIVES OF THE

UNITED STATES OF AMERICA,

IN GENERAL CONGRESS ASSEMBLED.

WHEN in the Course of human Events, it becomes necessary for one People to dissolve the Political Bands which have connected them with another, and to assume among the Powers of the Earth, the separate and equal Station to which the Laws of Nature and of Nature's God entitle them, a decent Respect to the Opinions of Mankind requires that they should declare the causes which impel them to the Separation.

We hold these Truths to be self-evident, that all Men are created equal, that they are endowed by their Creator with certain unalienable Rights, that among these are Life, Liberty, and the Pursuit of Happiness—That to secure these Rights, Governments are instituted among Men, deriving their just Powers from the Consent of the Governed, that whenever any Form of Government becomes destructive of these Ends, it is the Right of the People to alter or to abolish it, and to institute new Government, laying its Foundation on such Principles, and organizing its Powers in such Form, as to them shall seem most likely to effect their Safety and Happiness. Prudence, indeed, will dictate that Governments long established should not be changed for light and transient Causes; and accordingly all Experience hath shewn, that Mankind are more disposed to suffer, while Evils are sufferable, than to right themselves by abolishing the Forms to which they are accustomed. But when a long Train of Abuses and Usurpations, pursuing invariably the same Object, evinces a Design to reduce them under absolute Despotism, it is their Right, it is their Duty, to throw off such Government, and to provide new Guards for their future Security. Such has been the patient Sufferance of these Colonies; and such is now the Necessity which constrains them to alter their former Systems of Government. The History of the present King of Great-Britain is a History of repeated Injuries and Usurpations, all having in direct Object the Establishment of an absolute Tyranny over these States. To prove this, let Facts be submitted to a candid World.

He has refused his Assent to Laws, the most wholesome and necessary for the public Good.

He has forbidden his Governors to pass Laws of immediate and pressing Importance, unless suspended in their Operation till his Assent should be obtained; and when so suspended, he has utterly neglected to attend to them.

He has refused to pass other Laws for the Accommodation of large Districts of People, unless those People would relinquish the Right of Representation in the Legislature, a Right inestimable to them, and formidable to Tyrants only.

He has called together Legislative Bodies at Places unusual, uncomfortable, and distant from the Depository of their public Records, for the sole Purpose of fatiguing them into Compliance with his Measures.

He has dissolved Representative Houses repeatedly, for opposing with manly Firmness his Invasions on the Rights of the People.

He has refused for a long Time, after such Dissolutions, to cause others to be elected; whereby the Legislative Powers, incapable of Annihilation, have returned to the People at large for their exercise, the State remaining in the mean time exposed to all the Dangers of Invasion from without, and Convulsions within.

He has endeavored to prevent the Population of these States; for that Purpose obstructing the Laws for Naturalization of Foreigners; refusing to pass others to encourage their Migrations hither, and raising the Conditions of new Appropriations of Lands.

He has obstructed the Administration of Justice, by refusing his Assent to Laws for establishing Judiciary Powers.

He has made Judges dependent on his Will alone, for the Tenure of their Offices, and the Amount and Payment of their Salaries.

He has erected a Multitude of new Offices, and sent hither Swarms of Officers to harrass our People, and eat out their Substance.

He has kept among us, in Times of Peace, Standing Armies, without the consent of our Legislatures.

He has affected to render the Military independent of and superior to the Civil Power.

He has combined with others to subject us to a Jurisdiction foreign to our Constitution, and unacknowledged by our Laws; giving his Assent to their Acts of pretended Legislation:

For quartering large Bodies of Armed Troops among us:

For protecting them, by a mock Trial, from Punishment for any Murders which they should commit on the Inhabitants of these States:

For cutting off our Trade with all Parts of the World:

For imposing Taxes on us without our Consent:

For depriving us, in many Cases, of the Benefits of Trial by Jury:

For transporting us beyond Seas to be tried for pretended Offences:

For abolishing the free System of English Laws in a neighbouring Province, establishing therein an arbitrary Government, and enlarging its Boundaries, so as to render it at once an Example and fit Instrument for introducing the same absolute Rule into these Colonies:

For taking away our Charters, abolishing our most valuable Laws, and altering fundamentally the Forms of our Governments:

For suspending our own Legislatures, and declaring themselves invested with Power to legislate for us in all Cases whatsoever.

He has abdicated Government here, by declaring us out of his Protection and waging War against us.

He has plundered our Seas, ravaged our Coasts, burnt our Towns, and destroyed the Lives of our People.

He is, at this Time, transporting large Armies of foreign Mercenaries to compleat the Works of Death, Desolation, and Tyranny, already begun with circumstances of Cruelty and Perfidy, scarcely paralleled in the most barbarous Ages, and totally unworthy the Head of a civilized Nation.

He has constrained our fellow Citizens taken Captive on the high Seas to bear Arms against their Country, to become the Executioners of their Friends and Brethren, or to fall themselves by their Hands.

He has excited domestic Insurrections amongst us, and has endeavored to bring on the Inhabitants of our Frontiers, the merciless Indian Savages, whose known Rule of Warfare, is an undistinguished Destruction, of all Ages, Sexes and Conditions.

In every stage of these Oppressions we have Petitioned for Redress in the most humble Terms: Our repeated Petitions have been answered only by repeated injury. A Prince, whose Character is thus marked by every act which may define a Tyrant, is unfit to be the Ruler of a free People.

Nor have we been wanting in Attentions to our British Brethren. We have warned them from Time to Time of Attempts by their Legislature to extend an unwarrantable Jurisdiction over us. We have reminded them of the Circumstances of our Emigration and Settlement here. We have appealed to their native Justice and Magnanimity, and we have conjured them by the Ties of our common Kindred to disavow these Usurpations, which, would inevitably interrupt our Connections and Correspondence. They too have been deaf to the Voice of Justice and of Consanguinity. We must, therefore, acquiesce in the Necessity, which denounces our Separation, and hold them, as we hold the rest of Mankind, Enemies in War, in Peace, Friends.

We, therefore, the Representatives of the UNITED STATES OF AMERICA, in GENERAL CONGRESS, Assembled, appealing to the Supreme Judge of the World for the Rectitude of our Intentions, do, in the Name, and by Authority of the good People of these Colonies, solemnly Publish and Declare, That these United Colonies are, and of Right ought to be, FREE AND INDEPENDENT STATES; that they are Absolved from all Allegiance to the British Crown, and that all political Connection between them and the State of Great Britain, is and ought to be totally dissolved; and that as FREE AND INDEPENDENT STATES, they have full Power to levy War, conclude Peace, contract Alliances, establish Commerce, and to do all other Acts and Things which INDEPENDENT STATES may of right do. And for the Support of this Declaration, with a firm Reliance on the Protection of divine Providence, we mutually pledge to each other our Lives, our Fortunes, and our sacred Honor.

Signed by ORDER *and in* BEHALF *of the* CONGRESS,

JOHN HANCOCK, PRESIDENT.

ATTEST.
CHARLES THOMSON, SECRETARY.

PHILADELPHIA: PRINTED BY JOHN DUNLAP.

A "Dunlap Broadside," one of 24 surviving copies of the first printing of the Declaration, will be on view in "Declaring Independence."

In the letter, which was addressed to the Mayor of Washington, Roger C. Weightman, he declined to attend the 50th anniversary celebration of the Declaration of Independence in the District of Columbia because of his failing health.

☐ Several contemporaneous prints depicting the people and events of 1776.

In commemoration of the Fourth of July holiday, 219 years after its inception, the exhibition will be on display through July 4, 1995, in Madison Memorial Hall, 101 Independence Ave S.E. The exhibition is free and open to the public.

Special hours for the exhibition are 9:30 a.m. to 8:30 p.m. on June 29, June 30 and July 3; and from 9:30 a.m. to 5 p.m. on Saturday, July 1 and Tuesday, July 4. Only Madison Memorial Hall and the Madison Gallery will be open on Tuesday, July 4; all other facilities in the Library of Congress will be closed. The exhibition is closed on Sunday, July 2.

Library to Demonstrate New Initiatives at ALA

New Homepages Supply Details of LC Services

The Library of Congress exhibit booth at the Annual Meeting of the American Library Association (ALA) in Chicago will offer visitors a chance to see the latest digital initiatives of the nation's library. The Library's booth number is 612. Exhibits are open June 24 through June 27.

New homepages have been established on the Library's World Wide Web server (**http://www.loc.gov**) under the "Services and Publications" category.

The Library's American Folklife Center homepage offers hypertext links to information about its reference services, publications, Archive of Folk Culture, concerts and events.

The National Library Service for the Blind and Physically Handicapped (NLS) site gives a brief overview of NLS programs, a searchable list of publications, links to other libraries for persons who are visually and physically impaired, and even the opportunity to listen to a sample of a talking book.

The new Serial and Government Publications homepage provides general information, periodical and government publication resources, and links to resources for current news topics, such as President Clinton's proposed 1996 budget.

The Cataloging Distribution Service homepage has a subject index and table of contents to a catalog of products and services, general information, and the ability to place orders electronically.

THOMAS, the on-line congressional database that debuted Jan. 5, will be available as part of the demonstrations of the World Wide Web (WWW). THOMAS now offers the text of the *Congressional Record* as well as hypertext links to "hot legislation"—bills that have received recent floor action.

THOMAS also provides access to the House and Senate Gophers, as well as the C-SPAN Gopher.

The THOMAS Uniform Resource Locator is **http://thomas.loc.gov** or telnet (connect) to **thomas.loc.gov** and login as **thomas.** It is also accessible from the Library's homepage.

New to the Library's Web server is the on-line version of the exhibition "Temple of Liberty: Building the Capitol for a New Nation." There are now eight on-line exhibitions on the Library's Web server.

Other stations in the exhibit booth will offer demonstrations of LOCIS (Library of Congress Information System) on Internet. LOCIS offers, in addition to the Library's on-line catalog (books, microforms, serials, music, visual materials, manuscripts, etc.), status of federal legislation, copyright files and information about products of the National Library Service for the Blind and Physically Handicapped.

LC MARVEL (Machine-Assisted Realization of the Virtual Electronic Library), the Library's campus-wide information system, will also be on view. MARVEL combines the vast amounts of information available about the Library with easy access to diverse electronic resources over the Internet.

LC MARVEL uses the Gopher software from the University of Minnesota. To access LC MARVEL, telnet to **marvel.loc.gov** and login as **marvel**. Connection is also possible through a local Gopher client or another Gopher server by pointing to **marvel.loc.gov, port 70.** It is also possible to connnect to LOCIS from MARVEL.

Visitors to the booth will be able to take a look at digitized versions of two dozen of the Library's collections, such as the recently recovered notebooks of Walt Whitman.

The Center for the Book will have representatives on hand to answer questions about its reading promotions, such as the "Shape Your Future—READ!" program.

The Cataloging Distribution Service will demonstrate several of its newest products.

New Library publications, such as *Library of Congress: Prints and Photographs,* an illustrated guide to the graphic collections, will be on display and available for sale. Other guides cover collections in manuscripts; the European collections; and music, theater and dance.

Other publications on display will include:

☐ *The African-American Mosaic: A Library of Congress Resource Guide for the Study of Black History & Culture,* which provides titles of bibliographies, other guides, finding aids and individual items relating to black history and culture in the Library.

☐ *On These Walls: Transcriptions and Quotations in the Buildings of the Library of Congress.*

☐ *The Largest Event: A Library of Congress Resource Guide for the Study of World War II* surveys the six-year-long global conflict, based on the Library's vast holdings of World War II material.

☐ *Jefferson's Legacy: A Brief History of the Library of Congress.* The book, aimed at the general reader, summarizes the history of the Library from 1800 to 1992. It also has sections on the institution's collections, its buildings and the 13 Librarians of Congress, from John Beckley (1802–1807) through James H. Billington, who took office in 1987.

☐ *Works by Miguel de Cervantes Saavedra in the Library of Congress.*

☐ *Visual Arts in Poland,* a hardbound bibliography, and

☐ *The Presidents of the United States: The First Twenty Years.*

Civilization Magazine Garners Rave Review

Civilization's "glossy but traditional production and literate writing make [it] the best general-interest magazine to come along in years," wrote *Library Journal* in a May review of the 1994 crop of new magazines.

"Mixing trivial curiosities with cultural analysis, *Civilization* promises to change the way people think about what are often viewed as those dusty stockpiles of culture—our nation's libraries," *Library Journal* wrote.

Civilization, the bimonthly magazine of the Library, began publication in 1994. Its fifth issue—for July and August—has just been published.

Library of Congress Membership Available:
Includes Subscription to Civilization *Magazine*

Associate membership in the Library of Congress, which includes six issues of *Civilization,* is available for annual dues of $20 (see LC *Information Bulletin,* May 2, 1994).

To receive *Civilization,* call (800) 829-0427 to pay by credit card, or send check or money order, payable to *L.O.C. Associates,* to:

National Membership Department
Library of Congress
P.O. Box 420235
Palm Coast, FL 32142-0235

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Information Bulletin 84LC01

Digital Library *(Cont. from p. 258)*
materials to digital format as well as ensuring their availability to future generations.

What does Ms. Campbell hope will be accomplished by 2000?

"I hope in all the major program components that we will have made great progress. I hope that we will have created a production process within the Library that's as efficient as we can make it so that we can increase the amount of material that we can convert and make available.

"I hope that we will have sought good advice from the user community about what they'll find useful.

"I hope that we will have discovered new methods for describing material not under bibliographic control.

Ms. Campbell also wants to see a licensing system developed that will provide users with information on copyright status. The Copyright Office is now working on this issue (see story on page 267).

"I really hope we will have many partners who want to take the things we've digitized and make them available in a variety of formats and a variety of delivery channels.

"And I hope that when we open the electronic door to the Library of Congress that users will be able to navigate easily the collections."

—Guy Lamolinara

ITS *(Cont. from p. 263)*
mine the storage media based on frequency of use and type of material. Depending on how often an item is requested, the systems can "roll off" less popular data from magnetic disk to optical disk or tape, which are cheaper but slower.

Taken together, the emerging technologies are creating the right environment for the National Digital Library to emerge as an authoritative Internet site in terms of intellectual content, especially for unique American historical source materials. But the Library is ready to provide that content only because it has participated in digital technology for the last 25 years, Mr. Becker said.

He explained: "In the late 1960s, we began digitizing bibliographic data. But there's a significant difference between that traditional application and trying to provide access to content, not just to citations. It's a big change in the concept of a Library in the 21st century."

—Yvonne French

Thomas *(Cont. from p. 265)*
"Bills often modify a subparagraph of a public law. It would be more meaningful if we could go and look up the laws," Ms. Stork-Kittleman said. Two more things are on the wish list: members' voting records and committee reports and hearing transcripts.

It seems that the THOMAS team will have some time to install those features, unlike the initial push to inaugurate THOMAS in time for the opening of the current session of Congress.

"I seriously doubt we would have made this much progress if we all didn't believe that it is simply the right thing to do," Ms. Stork-Kittleman said. *—Yvonne French*

Education *(Cont. from p. 266)*
If Ms. Veccia and Ms. Dexter don't know where their efforts will lead, it's because they aren't supposed to. "Kellogg is encouraging us to be open rather than try to predict or steer the project toward an outcome," said Ms. Dexter. "Our overall goal is to see these materials used broadly, to increase the use of primary sources in the schools." "Who knows where technology will be in three years?" Ms. Veccia asked.

—Guy Lamolinara

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